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THE BUILDER

A RECORD OF ARCHITECTURE & CONSTRUCTION

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Engert & Rolfe, Ltd.
McNeill, F. & Co. Ltd.
Vulcanite Ltd.

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Anchor Brand.
Woods Sons & Co.

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Francis, S. W. & Co. Ltd.
Haskins, S. & Bros.
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THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXVII.—No. 3997 SEPTEMBER 12, 1919.

HOUSING AND THE ECONOMIC RENT.

WE have received from the National Housing and Town-Planning Council a copy of a recent Memorandum submitted to the Local Government Board, and an account of its reception. The points under discussion were the Administration of the Housing Bill; the raising of loans by public authorities; and the production and supply of building materials. The Bill provides that expenses of local authorities shall be paid, as far as schemes submitted within three months are concerned. Such expenses allowed shall be limited to schemes carried out by March 31, 1921, unless the Board allows a later date in specific instances. After prolonged discussion, it was, however, agreed that for both English and Scottish schemes the time limit shall be three years instead of two (from March, 1919). The Scottish members, however, pressed for a five years' limit. It was agreed by Sir A. V. Symonds, representing the Ministry of Health, that a liberal interpretation should be given to the Clause enabling an extension of time to be made. Regarding the choice of tenants and fixing of rents, the claims of men returning from service, and of widows and other dependants, was strongly urged. In reply, it was stated that the choice of tenant must be left in the hands of local authorities; but that, subject to this, the proposal was very sympathetically received. No one could, we consider, wish to suggest any prior claimants for the new houses, and we imagine that all the local authorities are quite alive to the desirability of first housing those who have been most directly concerned in ridding us of the German menace.

In reference to rents, it was urged that the returning soldier might not, in many cases, be able to pay the best economic rent obtainable; and, again, that the rural labourer might, for like reasons, fail to obtain his due share of the new and improved accommodation. It was pointed out that draft proposals on the subject of the basis of rents had already been approved. Now, we have every sympathy with the claims of the returning soldier, but we do not think that the lowering of rent in his favour is a proper financial method of compensating him for his war service and war losses. By the time the houses are ready, the cases needing help should, we hope, not be very numerous, and to make a special rent distinction will involve an official investigation, which it is hardly fair to saddle on the local authorities. Would it not be better to make any assistance a necessary part of the business of the Ministry of Pensions, or some other department connected with the war? We do not lower the price of the soldiers' civilian clothes or groceries, but we still hope he is fairly treated. As far as other cases are concerned, it seems to us that, given the promised safeguards against profiteers and speculators buying up the houses with a view to squeezing the public, that the best rent obtainable will be that which the worker can afford; for the professional man, who is—or will be—usually worse off than the manual worker of the better class, though he may be an applicant, is hardly likely to inflate the market price, and it seems improbable that the wealthy man will be much interested in the occupation of these houses. If, however, we are to understand that rents are to be artificially lowered to the applicants, we would ask the Council to reflect not only upon the increased national charge which will thus be involved, and which in the main must be met by taxation of the masses in one form or another, but also upon the depressing effect upon other property and the continued artificial and dislocating effect upon domestic work in the building trade. We see little object in robbing Peter to pay Paul, and we feel strongly that normal building conditions should be allowed to return as soon as possible. We have expressed the view before, and we repeat it, that granted—as we all must grant—the necessity of these housing schemes, they are to meet a mess we have got into through past short-sighted policy, and that they are emergency measures, and, like most of such expedients, wrong in principle. The only sound method of business is to pay for a thing at its market value. It is said that one cannot do this for these houses now, but it is open to question whether we ought to admit such an alternative. It seems to be an essential feature of the Government housing scheme that the working man is not to be expected to pay the full cost of the house he occupies, and as Mr. Harold Cox has put it, "by a truly democratic paradox, the growth of wages is being accompanied by the extension of pauperism." In our opinion, the sooner we pay for things at their market value, the sooner will progress and stability assert themselves.

The Memorandum suggested that the whole question of the position of rents in 1927—the presumed termination of the scheme—should be left alone to be dealt with by those then in authority in the various departments concerned. This view was contested by Sir A. V. Symonds, who pointed out that the arrangement whereby the rents chargeable in 1927 shall be the then current rates was an essential part of the Government understanding. We applaud this attitude. As above stated, our objective must be clearly kept before us, and that is to return to normal conditions as soon as practicable. In 1927, we shall anyhow have to cut our loss, which means saddle the national debt with the present excessive cost of building, and this will be quite sufficient; moreover, no other course than that decided upon will bring stability back to the property market.

Turning to repairs and maintenance, the original proposed allowances were 5s. for empties, 10s. for repairs, and 5s. for management, on the estimated net rentals. It was pointed out that the amount for repairs had been increased to 15s., and that these expenses were capable of subsequent adjustment.

The Town-Planning Council had also something to say on the question of raising loans, and suggested the issue of Housing Bonds. The fact that the Treasury would finance districts possessing only a small rateable value was not regarded as sufficient, as it was pointed out that, although most authorities could probably readily start schemes, the amount involved in many cases would be so great that later on difficulties might arise. This was conceded as an important matter which deserved further investigation. On the subject of building materials, the Council was referred to Sir James Carmichael.

All these points are of importance, and whether we are entirely of the opinion of the Council or not we commend its public spirit in raising them.

NOTES.

The R.I.B.A. Prizes.

IT has come to our ears that some dissatisfaction exists with regard to the arrangement made by the R.I.B.A. to meet the break caused in the young architect's existence by the war. Evidently the R.I.B.A. desires to take into consideration the loss of opportunity occasioned by military service to those who would now be ineligible to compete, since the war-time years are to be discounted in reckoning the age limit. But at the same time, the prize moneys not having been given for four years, are increased by only fifty per cent., whereas the number eligible and ready to compete is presumably five times the normal. The incidence of disability owing to war service still rests heavily on the returning warrior. One of these pointed out to us recently that the prizes might be five times as valuable, or—and this would be better—five of each prize with five different subjects might be offered. Doubtless those who made the present arrangement have good reasons for the course taken. But since, after all, the funds are in most cases held in trust for all British subjects, a statement of policy might help to reassure those of the younger men who feel that they are being not quite fairly dealt with.

Building Trade Wages in London.

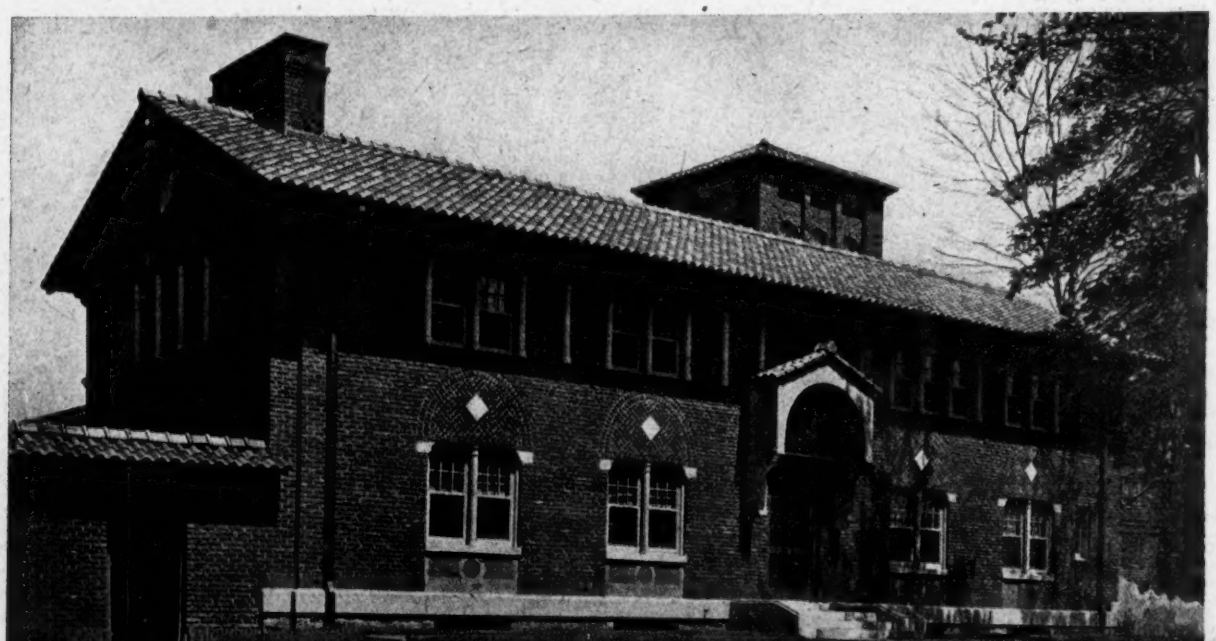
As a result of representations by the London Master Builders' and Aircraft Industries' Association, and the National Federation of Building Trades' Operatives, under the Wages (Temporary Regulation) Acts, 1918-19, for the extension by order making the following agreements binding in the London district, the Minister of Labour intends to seek the advice of the Interim Court of Arbitration in accordance with Section 2, sub-Section 3, of the Wages Acts, whether he shall by order direct that the determination or variation affected by the agreements shall be binding on all workmen to whom the prescribed rate or rates in question are applicable, and the employers of those workmen: (1) An agreement of Jan. 17, 1919, approved by the Minister of Labour in Feb., 1919; (2) an agreement of April 1, 1919, approved by the Minister of Labour May 2, 1919, and amended by the National Board of Conciliation on June 3; (3) an agreement in respect of scaffolders' rates of wages, approved by the Minister of Labour on June 28, 1919. The Court will wish to be guided by advice and information from representative bodies of employers and workpeople. The Court proposes that the hearing of the case shall take place at 5, Old Palace Yard, London, S.W., on Sept. 18, at 10.30 a.m.

Modern Architecture in France.

IT is not, perhaps, surprising that M. François Monod, in an article on "Architecture" in the French number of the *Times*, advises French architects to find the stimulus of new inspiration in the lands of her British and American allies. He says: "British domestic architecture, so rich and yet so little known amongst us, furnishes admirable examples of liberty and variety, combined with sternly practical ideas in plan and arrangement, and of simplicity, discipline and refinement in taste, of intimacy and charm of character. . . . In the United States we have incomparable examples of amplitude and audacity in the solution of the great problems of modern architecture." We can only echo the wish that the beautiful and inspiring taste which we all so value in the architecture of our French *confreres* may be united with some of the virtues noticeable in American and British work, for such a combination should surely produce fine results.

French Architecture and Decoration.

IN his admirable article, M. Monod makes some critical remarks on French architecture which are of interest to our readers. In seeking a lesson for French architects of to-day, M. Monod says: "What French architecture can do to-day, with more facility and more decision than was possible before the war, is to re-examine its own conscience. The work of resurrection in which it will have to play its part calls upon it to reaffirm the living forces within it, to discover wherein it is lacking, and what are its needs; to measure that effort of reflection, of adaptation, and of creation which it will have to make if it is to remain worthy of its past; whether it has to satisfy the urgent and insistent demands of reconstruction in France, or whether, in a more general sense, it has to meet the needs of modern life. Only thus will it reap in resourcefulness and freedom the moral good of victory. Perhaps the most original feature of contemporary French architecture is the tendency of its teaching in the

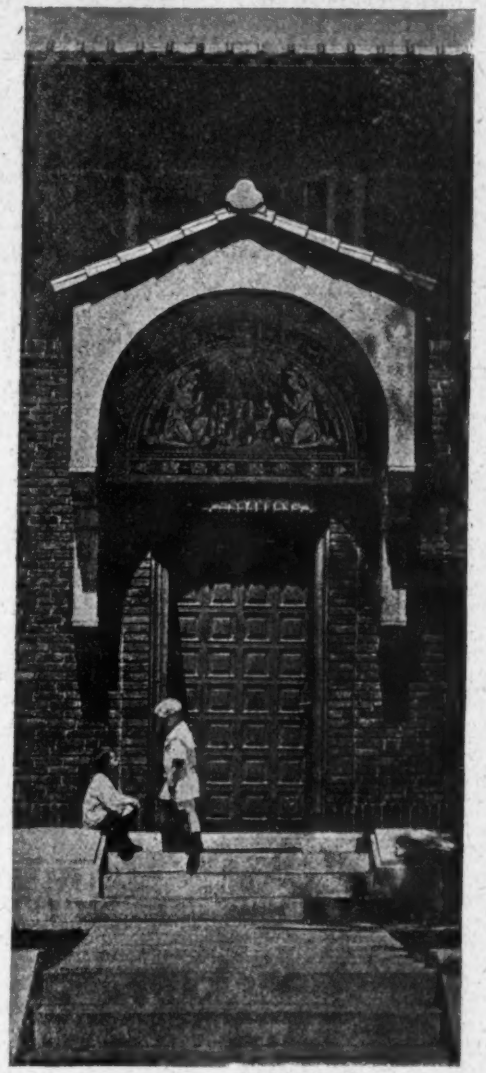


From the *American Architect*.

Englewood Neighbourhood House, N.J., U.S.A. Messrs. MANN & MACNEILLE, Architects.

science of composition. . . . Like our methods of literary and scientific education, this method embraces and communicates to the pupils the peculiar genius of the French temperament—severe intellectual discipline, rigorous doctrines of order, of clarity, of logic, and of eloquence. It is this type of teaching which has preserved to this very day in French architecture the ambition to create on the big scale, and a peculiar aptitude in the treatment of great subjects. It is this method of teaching architecture, established by our Ecole Nationale des Beaux-Arts, which has achieved for us our eminent superiority and the universal recognition of our architectural art, attested by the eagerness with which so many pupils from foreign countries come to study their art in Paris."

French Street Decoration. WE are not alone in our regrets for the inadequacy of modern pageantry, and it is not only in England that the complaint holds. Here is a criticism by M. Monod as to the failure of even French artists. He says: "It was on July 14 last, in the victory march through the Avenue des Champs Elysées, that our decorative artists had their first opportunity since the Peace to display their capacity for new creation. In its general conception, which narrowed one of the most noble and extensive perspectives in the world, by planting along it an avenue of masts poorly decorated with little flags, the scheme was out of keeping with the occasion, and its stinginess contrasted in a ridiculous way with this solemn review of an army of the living, and of a still greater, though invisible, army of the dead. But at the exits of the avenue young decorative painters had erected great white figures of Victory, which symbolized with nobility and pathetic gravity the most famous battles of the French Army against the invader. Like the Greek *Nike*, they breathed the strength, the heroism, the calm, and the joy of victory, and they seemed to evince the proof that our decorative art has already been inspired with the breath of the resurrection of Peace, and that it is ready to resume, with redoubled energy and faith, that effort towards liberation which had commenced already a generation before the war. That effort had sought to free industrial art entirely from the servitude of old styles, by a determined and passionate return to nature, which is the sole inspiration for liberty and imagination, and also by a renewed study of technique in every branch of industrial art. Led by a small number of creative artists, this splendid movement had produced a large number of original works in every branch of decorative art—in china-ware, glass-ware, metal-ware, weaving, jewellery, furniture, and decorative painting. These works, full of life and savour, implied a complete regeneration in the technical branches of French decorative art and in the sources of its inspiration."



From the *American Architect*.

Detail of Principal Entrance, Englewood Neighbourhood House, N.J., U.S.A.

Messrs. MANN & MACNEILLE, Architects.

Light in Churches. A CORRESPONDENT writes: "Roaming about in the South East of London one came across a church, erected a generation back by a leading light of the Gothic revival, well known by illustrations, but never seen in the stone before. It was simple, severe and dignified; but, as the aisle windows were very small and those in the clerestory high up, the interior was extremely dark, particularly the chancel, where it was impossible to read without artificial light. Remarking to a church worker, who was attending to her duties, that the church was very dark, she replied 'Yes, it is a most depressing church.' The man in the street, as a reasonable being, likes a reasonable amount of light, and if he does not get it is likely to remain in the street and not enter the church. A number of new churches will probably be wanted during the next few years, and it is to be hoped the important question of lighting will receive due attention."

Careers for ex-Service Men. ONE of the most important features of the measures for re-settling ex-service men in civil life is the Government scheme, whereby ex-officers and other ranks of good education may be assisted to take up or resume training for business and professional careers. In the phase of the work dealt with by the Appointments Department of the Ministry of Labour, training is arranged for in offices and works, &c., and the co-operation of employers is, therefore, essential to success. Many employers have responded to the appeal which has been made to them with the greatest willingness, and although the scheme has only been working fully for a comparatively short time, over 3,500 students are now in training. Architecture is a profession found attractive by many candidates, and on August 22 there were 166 students in training with a view to becoming qualified. The number of applicants is, however, we understand, very greatly in excess of the number of training vacancies available, and employers who can help by offering to train suitable candidates are urgently requested to communicate with the nearest District Office of the Appointments Department. We may add that, in cases where it is proved necessary, grants are made to students to assist in payment of their fees and maintenance during the period of training.

Re-Paving. LONDON is threatened with a big dose of the repaving nuisance. So much has been left undone during the war that the prospect of these repairs is a much more serious one than it usually is after the season. We suppose it is too late to advocate the provision of a proper conduit under our old main thoroughfares for pipes and mains of all kinds, which would obviate the immediate ploughing up of newly-laid roads. No authority has yet dared to face such an outlay for roads in its area, though years ago such a policy would have now shown itself an economy, and, indeed, should have produced a financial return in charges to users. We hope, however, that in our new arterial roads the necessity for such provision will be realised in time, and the requisite steps taken to ensure its adoption.

F

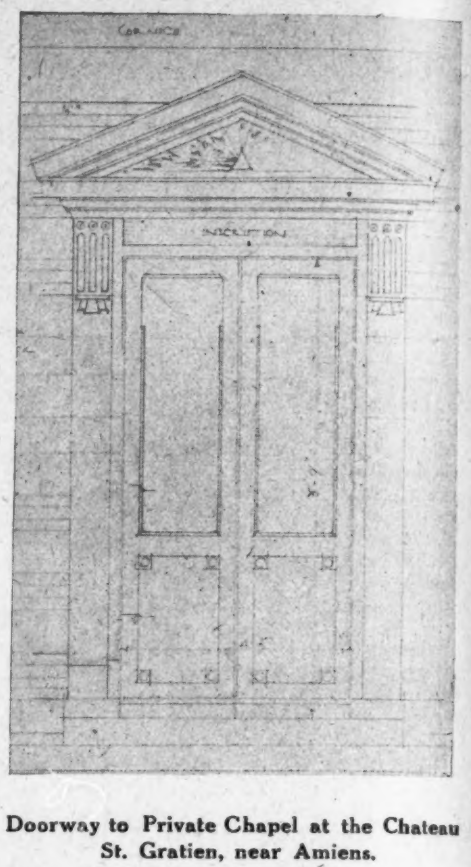
FRENCH ARCHITECTURE AND DECORATION.

IN the French number of the *Times* last week, M. Francois Monod (Conservateur adjoint des Musees Nationaux) says that the construction of the large number of factories and industrial towns for war purposes were carried out too rapidly to usefully favour the progress of urban and industrial architecture. He estimates that the reconstruction of the devastated area will take at least a generation. The economic difficulties will impose a regimen of the strictest economy on architecture, and during that period architects will have to direct their energies mostly to repairs and mendings. M. Monod continues:—

"Perhaps the principal influence of modern French architecture is, it is scarcely necessary to say, the richness of our architectural past and the wealthy patrimony we have inherited in the shape of public monuments. From the Roman period right into the nineteenth century the history of French architecture is that of one magnificent and ever-swelling movement of creative power, renewing and developing itself unceasingly for eight centuries. Of all the national traditions which go to make up the history of European architecture, there is none that goes so far back, none so fruitful or so grand, there is none presenting greater variety, greater attraction, or a greater content of strength and of beauty. All contemporary authority is agreed that the architectural inheritance of France, as it subsists on our soil to-day, constitutes an incomparable treasure of material and spiritual examples and principles—an inexhaustible source of teaching, of inspiration, and of comfort.

"Such are the guarantees of the vitality of French architecture. What now are its weaknesses? In what direction ought it to-day to make for reform and for progress? It should do so in two very important respects. It must first of all purify its taste. Then it must adapt itself to the varied requirements of modern life with greater liberty, greater daring, and a much more acute sense of the practical than it has done hitherto. What chiefly characterises the design and decoration of our most effective public monuments, of our seven-storeyed buildings, of our suburban and country houses, is the abundance of ornament and a sort of gaiety, a sort of facile and brilliant animation, which ensues in their general aspect. One feels this in the sculptural decoration which is so largely used, which is so entirely in keeping with our tradition, and so easily carried out by our practical decorators to-day, as in the Gothic period or in the eighteenth century. But this gaiety and decoration too often degenerates into a vulgar and displeasing overloading of ornaments at the expense even of convenience and utility. Too often modern decoration, by its very excesses, ignores the very first law of architectural decoration, the aim of which is to emphasise and to animate its principal features, and not to confuse and disfigure them. In other words, modern French arhcitecture has too often and too willingly made itself the slave of the worst bourgeois taste.

"It is indispensable that these vagaries, which have done so much to spoil French taste, should be abandoned. There must be a return to a proper sense of proportion, to simplicity and nobility—that is to say, to the purest French tradition. We must get at that tradition once again from the inside and discover and obey its principles. A return to a proper sense of and respect for the laws of decoration means that we must give up the practice of imposing the French styles of a past age upon modern life. Or, at any rate, we must confine ourselves to preserving the spirit of those styles without a slavish and merely mechanical and sterile imitation of their forms. Such a reform in taste is inseparable from a more profound and a more general effort. We must come back to the elementary principles of architecture, which are that the plan, the design, and the expression of our buildings should show a reasonable adaptation to our needs. In this sense, French architecture must liberate itself completely from the deadweight of merely formal tradition, so that it may tackle with resolution and freedom of spirit the new problems presented by the architectural arrangement of modern life, so that it shall correspond to our industrial, economic, and social progress and harmonise with modern ideas.



Doorway to Private Chapel at the Chateau St. Gratien, near Amiens.

From a Sketch by MR. STANLEY J. WEARING, A.R.I.B.A.

Cottage end at Favril, near Landrecies.

From a Sketch by MR. STANLEY J. WEARING, A.R.I.B.A.

"An English critic has declared that French architecture 'lacks courage and a sense of the practical.' There is some truth in this severe judgment. Both in the whole and in detail our architecture needs to be more practical and more resourceful. In domestic architecture, in particular, details of plan and interior arrangement call for a more lively sense of the exigencies of hygiene and comfort. Above all, it wants to get rid of an excessive regard for merely picturesque form in order to adapt itself more boldly to the new demands made by the rapid modernisation of contemporary life. In recent years, French art has sometimes with success managed to express this new sense of practical æsthetics, and, especially in the domain of domestic architecture, has produced some quite remarkable work, disclosing a strength of creative power, of which we regret we cannot write at greater length in an article confined to the study of a few general features. But it is only a commencement, and the effort made so far requires to be largely developed. With this object in view, one of the principal lessons of the peace for French architecture is that it should seek, as the complement of its educational tradition, inspiration abroad much more than it has done up to the present.

"From the practical point of view, some profit might be derived from a study of the lessons taught by German architecture, but they are not very popular. It is in countries speaking English, in the lands of our British and American Allies, that our architects will prefer to find the stimulant of new inspiration. Domestic architecture, so rich and yet so little known among us, furnishes admirable examples of liberty and variety combined with sternly practical ideas in plan and arrangement, and of simplicity, discipline and refinement in taste, of intimacy and charm of character. In American architecture, what we have to study principally is its adaptation to the large general

need of contemporary life. In its new towns, its industrial cities, its railway stations, its clubs, public libraries, banks and business buildings, the United States furnishes us with incomparable examples of amplitude and audacity in the solution of the great problems of modern architecture.

"It is with such ambition of moral and practical renovation that French architecture must approach the task, which is its legacy of the war, of reconstructing the devastated region. There lies open before us a vast field of experience and invention. Private, public and industrial architecture, factories, churches, town halls, schools, houses, villages, and even complete towns, in hundreds, if not in thousands, will present the opportunity for new creation. Already partial results have been outlined. Taking their inspiration in the devastated regions from the general character of the regional architecture, our architects have evolved with some success, at any rate on paper, new types suited to modern peasant life. In this there is some sign that in the very immensity of practical character of the past before it, our architecture will find a powerful stimulant to create and to progress. From the midst of the ruins comes the call to a resurrection. It must be a labour not only of necessity, but of love. It is in the domain of architecture that reconstruction in France must bear its first fruits."

Artists' Houses for Sale.

The house of the late Sir L. Alma-Tadema, O.M., R.A., at St. John's Wood, and the house of the late Sir Edward Poynter, R.A., at Kensington, are both in the market. Both houses have beautiful and artistic gardens, and large, specially-designed studios. Sir L. Alma-Tadema expended about £70,000 on the St. John's Wood property.

SKETCHES NEAR AMIENS.

On August 22 we reproduced a drawing by Mr. Stanley G. Wearing, A.R.I.B.A., of the Chateau St. Gratien, near Amiens. In sending the accompanying sketches Mr. Wearing remarks: "Most of the subjects are within a short distance of Coisy, near Amiens, and show what a great amount of good work there is around these parts. Every village I went into had a number of things for the sketch book, which, in many cases, took a little finding, one reason being that the delightful iron-workers' craft in door handle and key plates, &c., was covered up with paint; further, the lay-out of the villages around Amiens is such that when walking up the street, generally speaking, one has only a view of bare walls and large entrance doors, the latter giving access to the farm yard, around which are the barns and sheds, and straight opposite the dwelling house. The entrance doors off the street are in most cases full of design, from the little roofs over (to protect them from the weather), and the variety of cut splats, to the cleverly-wrought iron-work. The local builders' thought for protecting all woodwork from the weather leads to many an interesting feature. The slater, too, seems to have entered into the spirit of the work, and the extra trouble he took in cutting the edges of the slates to various shapes for particular positions makes this a delight. The old village churches, almost without exception, are worth going far to see; but in many cases they have had to give place to large modern ones. Some of these, from the distance, looked promising, for their proportion and outline is good; but on closer acquaintance were devoid of all interest to me, being showy, much too large, and out of sympathy with everything around."

COMPETITION NEWS.

Stretford.

The premiums in connection with the competition for the lay-out of the Gorse Park housing site, organised by the Urban District Council have been awarded as follows:—

First Premium.—Mr. C. Swain, 12, Exchange-street, Manchester.

Second Premium.—Mr. G. Hemm, 308, Manchester-road, Heaton Chapel.

Third Premium.—Mr. R. J. McBeath, Birnam House, Sale.

Limpsfield.

The plans for a war memoral hall and club, submitted in a limited competition by Mr. Arthur Keen, F.R.I.B.A., have been adopted, on the recommendation of Mr. Robert S. Weir, the assessor.

Darwen.

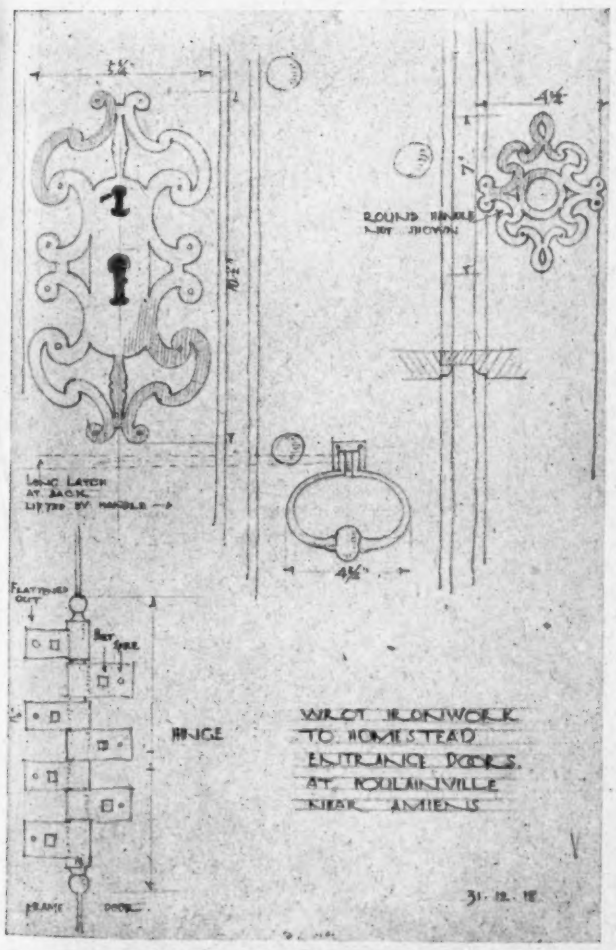
FOR THE TOWN COUNCIL.—Designs for a war memorial. Premiums, £50, £30, and £20. Particulars from Mr. W. P. Halliwell, Town Clerk.

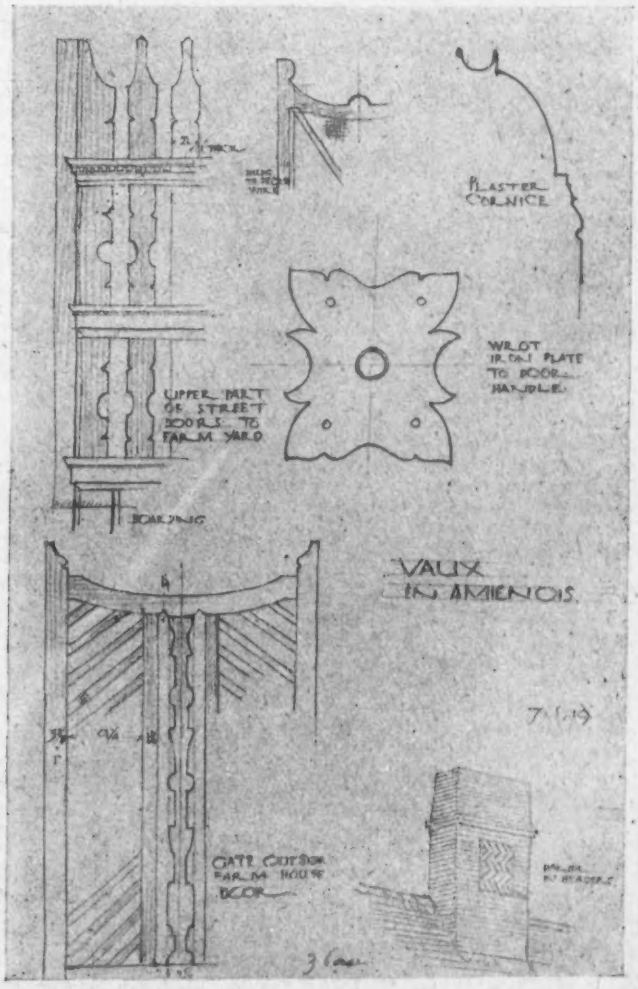
Oxford.

FOR THE CITY COUNCIL.—Designs for the lay-out of a congested area in the centre of the town. Mr. H. V. Lanchester, F.R.I.B.A., will act as assessor. Sending-in day, October 20. Further particulars from the Town Clerk. (See our advertisement pages, August 15.)

Leamington Spa.

FOR THE WAR MEMORIAL COMMITTEE OF THE TOWN COUNCIL.—Designs for a war memorial. Premiums £100, £50 and £25. Mr. H. V. Ashley, F.R.I.B.A., of 14, Gray's Inn-square, W.C., will act as assessor. Further particulars from the Town Clerk. Sending-in day, October 15. (See our advertisement pages, July 25.)




PLASTER CORNICE
WROT IR. ON PLATE TO DOOR HANDLE
UPPER PART OF STREET DOORS TO FARM YARD
BOARDING
VAUX EN AMIENOIS
GATE CUTSIDE FARM HOUSE DOOR

Sketches near Amiens. By MR. STANLEY J. WEARING, A.R.I.B.A.

GENERAL NEWS.

Professional Announcements.

Messrs. Joseph, architects and surveyors, of 83, Queen-street, E.C.4, are removing to 2, Paul's Bakehouse Court, St. Paul's Churchyard, E.C.4 (Telephone, City 3322-3-4), on Sept. 22.

Messrs. Horder & Wells, surveyors, have removed to No. 40, Catherine-street, Buckingham Gate, S.W. 1.

Personal.

ARCHITECTS' HONOURS.—The *Journal* of the Royal Institute of British Architects announces the following honours gained by members of the Institute: O.B.E. (Military Division), Lieut.-Colonel G. Reavell (Fellow); Military Cross, Lieut.-Colonel A. W. Hall (Associate).

OBITUARY.—The death is announced of Mr. Lister Coates, A.R.I.B.A., of Halifax, and Mr. Abraham Sharp, Lic.R.I.B.A., of Bradford.

We regret to record the death, which took place on the 9th inst., after a long illness, of Mr. Edwin O. Sachs, F.R.S.E., at the age of 49 years. We hope to give some particulars of Mr. Sachs' career in our next issue.

WILL.—The late Sir Edward Poynter, R.A., left estate of the net value of £19,823.

The Godwin Bursary.

The Council of the R.I.B.A. has awarded the Godwin Bursary and Wimperis Bequest for 1919 to Mr. H. Austen Hall (Fellow), who, under the terms of the Bursary, will tour the Eastern cities of the United States and prepare a report on modern stores and shop buildings.

A Wolseley Memorial.

It has been decided to prepare a room in the museum at the United Services Club, Whitehall, as a Lord Wolseley Memorial Room, which will contain the collection of relics presented by the Dowager Viscountess Wolseley. The room will contain a specially painted ceiling and a stained-glass window.

Training Disabled Soldiers.

A committee of Manchester business men has been formed to act in an advisory capacity and to examine generally into the system of training, etc., at the Y.M.C.A. workshops for disabled ex-service men in Manchester. A small committee of the Leather-Workers' Trade Union Society has also been formed to work in conjunction with the committee of the Manchester Y.M.C.A. silver badge workshops, with regard to the employment of the men.

A Town-Planning Conference.

The Council of the Town-Planning Institute is arranging to hold a conference at Oxford, from September 25 to 29, with the objects of enabling members to become better acquainted with one another, and to afford an opportunity of discussing problems in connection with the Housing, Town-planning, &c., Act, 1919. The programme includes trips to Abinger, Blenheim, and the colleges. Applications from intending delegates should be addressed to the Secretary of the Institute, 4, Arundel-street, W.C.2.

"The Irish Builder."

The *Irish Builder and Engineer* is celebrating the sixtieth year of its existence by the issue of a special "Diamond Jubilee" number, which contains thirty-nine pages of articles on the progress of architecture, building and allied subjects during the past sixty years. Among the large number of interesting reviews, may be mentioned a retrospect of old Dublin, by Prof. A. E. Richardson, "Housing and the Architect During the Past Sixty Years," by Mr. H. Alberry, F.R.I.A.I.; "Irish Georgian Houses," by Capt. P. L. Dickinson; "Sixty Years of Irish Architecture," by Mr. R. M. Butler, F.R.I.B.A., and "Fifty Years' Progress in the Manufacture and Testing of Portland Cement," by Prof. P. F. Purcell, M.A.I., M.I.C.E.

Devonshire House.

It was again reported last week that Devonshire House and grounds, Piccadilly, had been sold. It was stated, on "unimpeachable authority," that the property had been purchased, for £1,000,000, by an American syndicate, which intended to erect a large hotel on the site. This was afterwards denied, and a large London firm of builders were stated to be the purchasers. The estate correspondent of the *Times* failed to obtain confirmation of the report, and cast considerable doubt on its correctness, although it is well known that negotiations for the sale of the property had been proceeding for some time. It was reported on Wednesday this week that the property had been acquired by Messrs. Holland & Hannen & Cubitts, Ltd.

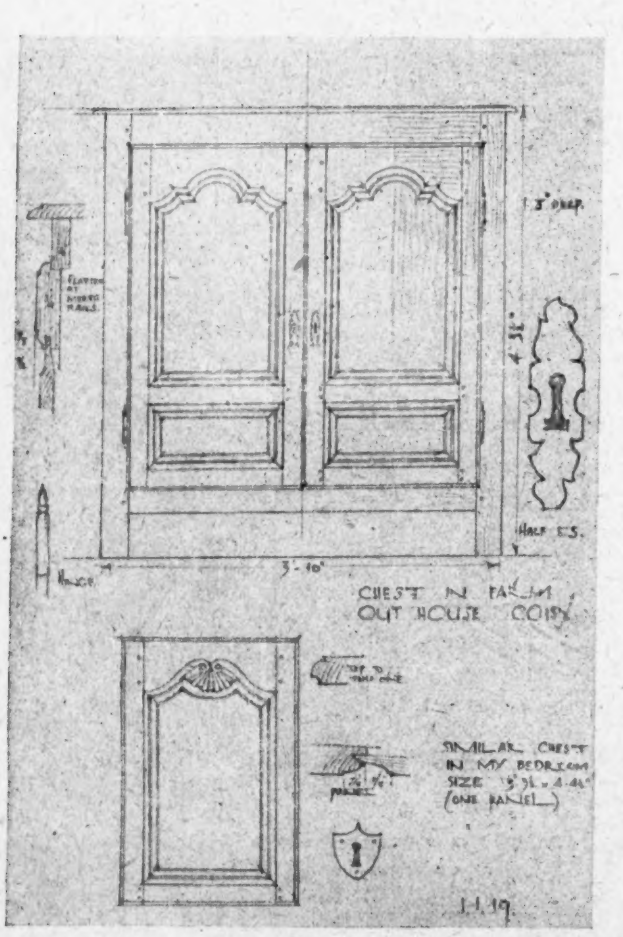
WAR MEMORIALS.

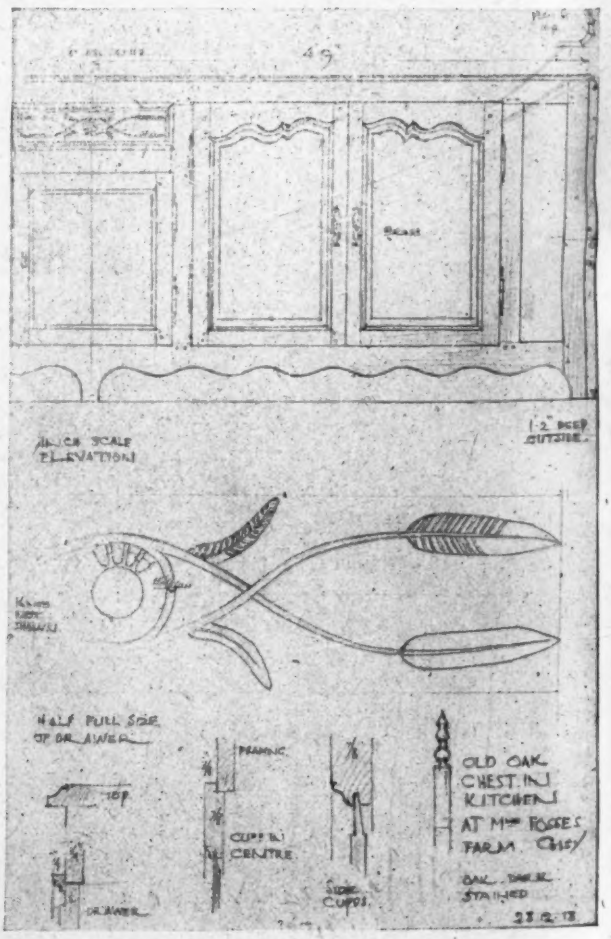
Hampstead.

A cenotaph, similar to that in Whitehall, has been designed by Sir Edwin Lutyens for the Hampstead Garden City Free Church; a large panel in memory of the fallen, designed and executed by Mr. Ivor Beaumont, F.S.A., has also been erected in the same church.

Knowlton.

A cross of Aberdeen granite, which was offered to the village which sent the largest proportion of its population to the Colours, has been unveiled at Knowlton, near Canterbury. The monument was designed by Sir George Frampton, R.A.





Sketches near Amiens.
By MR. STANLEY J. WEARING, A.R.I.B.A. (*See* p. 259.)

CORRESPONDENCE.

"The Beauty of Structures."

Sir,—In No. VIII of Professor Lethaby's "Observations and Suggestions" (page 239 in your issue of the 5th inst.) he refers to Inigo Jones's Whitehall Palace and Street's Law Courts as "make-believe buildings." In the latter we may indeed see a group of legal offices trying to look like a huge mediæval monastery; but in Inigo Jones's building, several architects of my acquaintance agree with me in perceiving a front which tries to look like part of a Royal palace and succeeds remarkably well in the attempt. According to Professor Lethaby, "everyone really knows that style-design is faint to staggering"; but is this a reasonable view of architectural evolution? Do we not learn from the past that, in the best periods of architecture, each style has been developed from a preceding one? Art without rules is unprecedented, because impossible, and we cannot revert to the conditions of the primitive hut-builder to start afresh. The only alternative is the further development of some pre-existing style. The style ready to our hands is that of the Italian Renaissance, being, as we contend, the one most easily adaptable to modern requirements.

GEORGE H. BLAGROVE.

Designing and Building Cottages.

SIR,—In your issue of August 29, 1919, p. 211, you report: "The Ministry of Health states," &c. It would be useful if you would give chapter and verse, in other words, inform your readers where to obtain the full statement, of which it is to be presumed your paragraph is an abstract.

Several questions naturally present themselves on reading that paragraph, *e.g.*:—

1. Do all the recommendations in it refer to concrete construction?

2. What is considered a "proper wall head" to bind the two leaves of wall together? The same would be useful as lintels and sills to openings. It should really bind the two halves of the wall, and be a non-conductor of moisture.

3. What, in this connection, is a satisfactory tie for cavity brick or slab walls? One knows what is used, but one doubts whether any cavity wall with two half bricks or two 3-inch slabs, and 2-inch cavity is really not liable to failure eventually by reason of decay or rusting of ties, and what with its weakness, even when newly built, and the bother at all openings, &c., I feel very little confidence in it, or liking for it. I think 9-inch brick plus 1-inch cement rough cast and limewhite well "laced" with hard tallow, a better wall.

4. As to 3-inch concrete bedroom floors, to give the scantlings of such a floor, such has been made and proved a success, say, over the largest room, say, 16 by 12, would be a boon, and would not occupy more than three or four lines of print.

5. Will a steel float finished cement concrete floor stand bed-castors satisfactorily?

6. Can pre-cast reinforced-concrete beams be made as cheaply as the sort of wood beam one generally uses in a cottage, say, 7 in. by 4 in. by 12 ft. clear span? I doubt it. I am all in favour of reinforced-concrete first floors; it is a saving in height of probably 3 inches, and a very desirable elimination of dirt and vermin space, and a form of construction less liable to decay, and more easily repaired if worn, than joists, board and ceiled floors. It also saves trimming for, and formation of, fire-resisting hearths, necessary in wood floors.

W. B. HOPKINS, A.R.I.B.A.,
Capt., S.R.E.S.
A.D.O., R.E., Norwich.

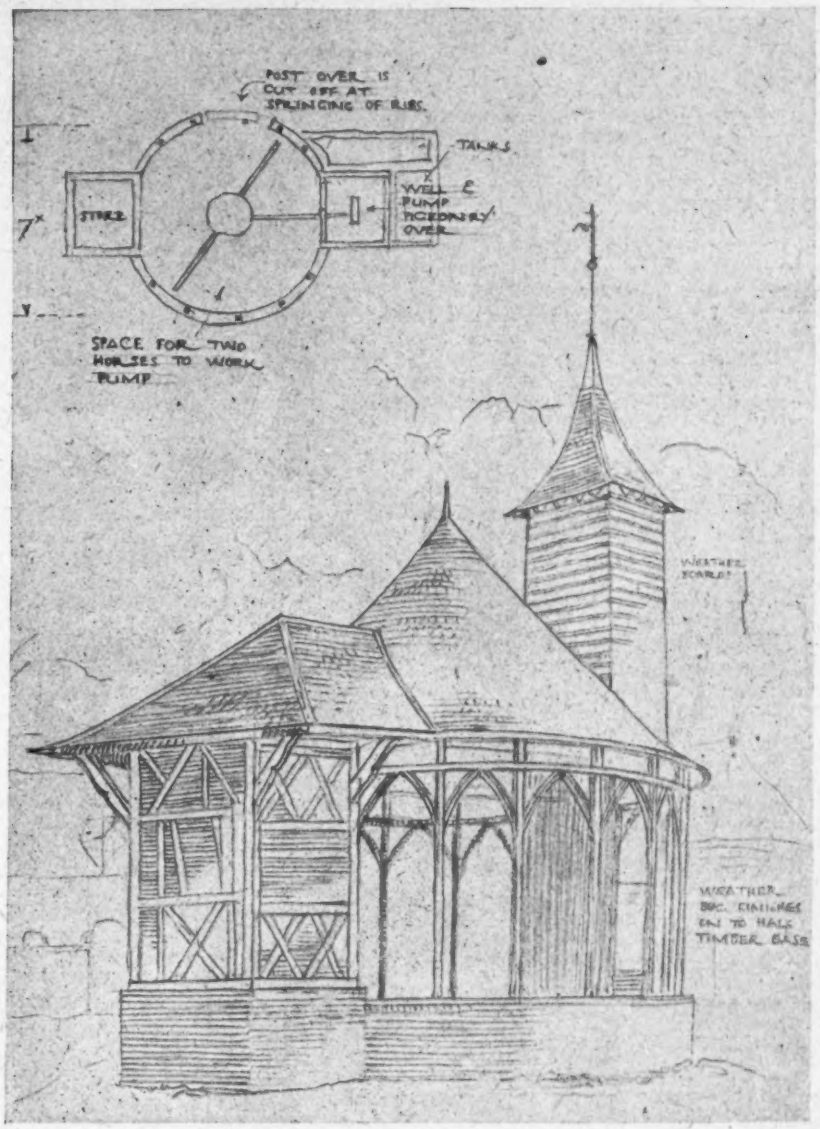
[**** The announcement referred to is a circular issued by the Ministry of Health, and contains no further information than that given in our pages.—ED.]

Local By-Laws and Housing.

SIR,—Southampton, like many other towns, is languishing for the want of dwellings for the people, but cinemas, warehouses and the like are swallowing up brick, timber and labour which would build scores of houses. Of course, the building speculator (often much maligned) has ceased to exist, and the Government that helped in bringing about this crisis is doing very little to make up the terrific loss. The cause for my writing is to an extent, perhaps, somewhat remarkable. It has just come to my notice that a client of mine is building a detached brick and slated cottage for his foreman, who at present is living in a wretched tenement. The house will have three good bedrooms, bathroom, living-room, parlour and domestic apartments, immense garden, good drainage and water supply; it is about a quarter of a mile from any other building; all the exterior walls are 12-in. cavity built, and the house has the very best damp-proof construction known and a high-pitched slated roof. As an architect and building surveyor of fifty years' experience, I would not hesitate to give a certificate that it is a thoroughly sound, dry, and most desirable dwelling-house, fit for anyone to live in, that it would stand for a century, and is just the ideal class of house for which thousands are clamouring. Imagine, then, my surprise and disgust to find my client has received from the surveyor of a rural district council a three days' notice to comply with some arbitrary by-laws, threatening proceedings, to alter or pull down. I admit that, good and strong as this detached cottage is, some minor matters do not technically comply with these most stringent and quite unsuitable by-laws (fit for the City of London and not for a rural district); but the point of the whole question is this: Are such by-laws to be materially altered or "scrapped," or is all encouragement to build to be entirely snuffed out? Personally, I think all that is necessary should be to see that the buildings are thoroughly safe, sound and sanitary. Fancy, in these days of enlightenment, for a surveyor to ask for thick bond timbers! To my mind they cannot be too thin; far better to have none at all, or at most a cement bed or half-inch piece of timber. I am writing this without my client's knowledge, but, if desired, I feel sure he will permit me to furnish to the right quarter the full names and addresses of owner, builder, district council and its surveyor, and show any Government or other surveyor over this excellent little detached dwelling.

In the event of the Government building or assisting others to build houses in this or other similar rural districts, I wonder whether it will be bound by such arbitrary by-laws? But even if it was, of course, cost might then be a secondary consideration.

WILLIAM BURROUGH HILL, F.A.I.


POST OVER IS CUT OFF AT SPRINGING OF RIBS.
TANK
WELL & PUMP HORIZONTALLY OVER
STABLE
SPACE FOR TWO HORSES TO WORK PUMP
WEATHER BOARDING
WEATHER BOARDINGS ON TO HALF TIMBER BASE

Building in the Farmyard at the Chateau, Bertangles, near Amiens.
From a Sketch by MR. STANLEY J. WEARING, A.R.I.B.A. (*See* p. 239).

Making the Most of Our Wood Wealth.

SIR,—Seeing that we shall have to wait very patiently for the wood products of the new lands that are to be afforested, under the provisions of the Forestry Act, would it not be well if some attention were paid to making the most of the diminished wood-wealth we are likely to have for some years to come? A significant announcement has just been made relative to a Norwegian enterprise, that has a bearing on the question. It is announced that a factory of large capacity has been erected in Larvik, Norway, to preserve timber, by a simple

process of impregnation, by which the "life" of timber exposed to the weather may be increased two, three, or more times that of similar timber, untreated. The factory will, it is stated, be able to treat 2,300,000 cubic feet of timber, representing 130,000 telegraph poles, annually, and it is estimated that by the treatment 1,800,000 cubic feet of timber may be saved annually. The preservative used will be creosote oil. The timber to be treated will be wheeled on small trucks into large cylinders. The cylinders will be closed up tight, and then filled with creosote. A pressure of about 150 lbs. per square inch will be applied, and the oil forced into the pores of the timber, saturation being effected. Telegraph poles that have been treated in this way, and that have stood for twenty-four years, are sound and strong, whereas, the life of similar poles, untreated, has been about eight years. Pier timbers, immersed in water while in use, have been found to keep strong and sound after a thorough saturation with creosote, from four to nine times as long as timbers unpreserved. In the United States and in Canada the preservation of timber, with a view to conserving the decreased timber wealth, has been made a subject of extensive and special research, starting from the known effects of creosote and chloride of zinc, the two preservatives most commonly used. At a meeting of the Manchester Geological and Mining Society on May 13, Mr. N. T. Williams, Hon. Secretary of the Society, in a paper on "The Preservation of Mine Timber," gave the quantity of timber used for mining purposes in a normal year as approximately 4½ million tons; of this, it was admitted, that there was great waste through preventable decay. Much of this loss, Mr. Williams said, could be prevented by treating the wood with a suitable preservative, such as creosote or zinc chloride. When the quantity of timber was small, a "brush treatment," with two coats of hot carbolinium or creosote, sulphate of zinc, or any other standard antiseptic, applied to sound, seasoned timber, would considerably lengthen the life of the wood.

The preservation of railway sleepers and telegraph poles by the use of creosote, has long been practised, but these two classes of timber may be said to represent all that are systematically treated. In the year 1913, there was brought into the United Kingdom from other countries 6,636,607 loads of 50 or 60 cubic feet per load, of wood sawn, split, planed or dressed, and of sleepers; and 4,380,231 loads of hewn timber. In 1918, the quantities were but 1,581,930 and 752,602 loads respectively. In the meantime, the reserves of standing timber in the United Kingdom had been cut down greatly, in some cases by quite one half, to afford wood to meet the demands of the war and for constructional and mining uses, to make up in part for the lost importation.

A shortage of timber for general constructional purposes still exists. Though railway sleepers and telegraph poles are now creosoted as a matter of course, pit wood and a large quantity of wood used for general purposes and exposed to the weather, is not yet so treated. All such wood that may fitly be preserved ought to be, as a help in economising the much reduced supplies of wood that are available. Even in domestic affairs the giving of outside woodwork—doors, gates, fences, posts, carts, sheds, wood roofs, roof battens, fowl houses, implement wood, tubs, and a score of other things—two good coats of creosote will prolong the life of such things to three, four, six, eight or more times the length it would be—other things being equal—if no preservative, or a simple coat of paint were used for the purpose.

Liverpool. J. H. QUAIL.

Welfare in Industry.

SIR,—During the last three years, inspired by the efforts of far-seeing firms, the welfare movement has made very rapid strides in this country, and the wide recognition now being given to it by employers, workers and public men leaves little doubt but that within a few years it will occupy a very prominent position in the industrial world.

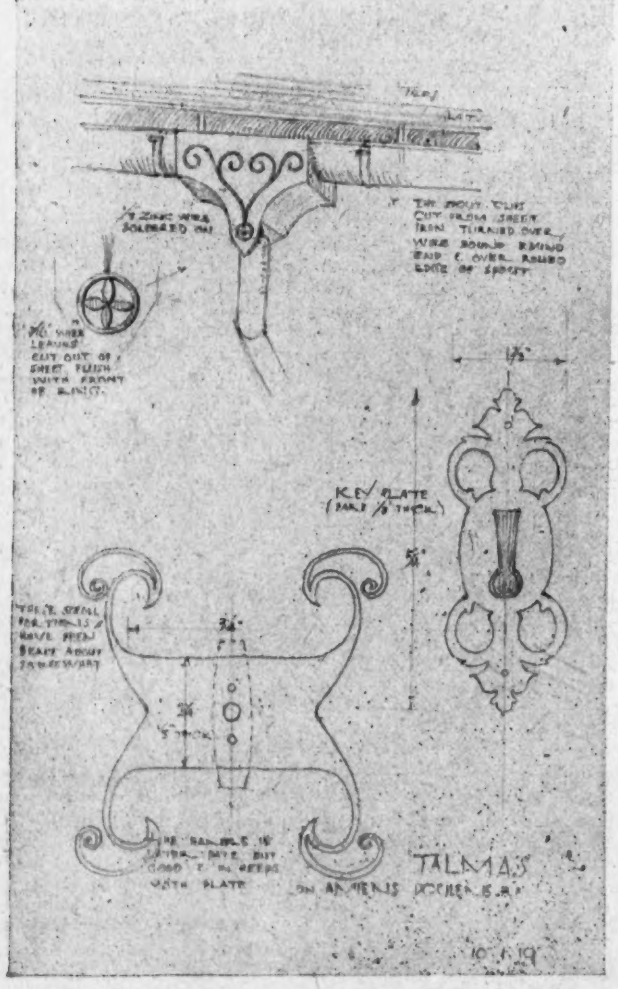
So far, no real attempt has been made, either by the State or voluntary agencies, to collate information regarding various phases of the work; in fact, the names of firms interested in the movement are not even recorded in any place.

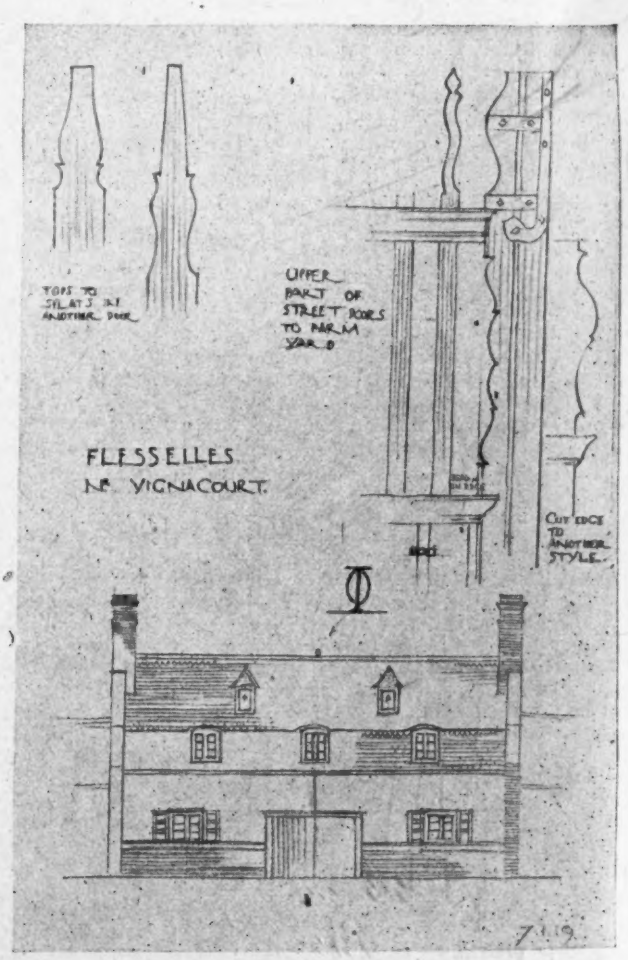
The Industrial Welfare Society is anxious, for the benefit of industry generally, to collect from the pioneers of this movement information regarding their doings in connection with Welfare Work. I shall, therefore, be grateful if those firms who are willing to assist in this way will apply for particulars of the information desired to the Industrial Welfare Society, 33, Tothill Street, Westminster, S.W.1.

ROBERT R. HYDE, Director.

Royal Academy of Arts.

Lectures on Anatomy, by Professor Arthur Thomson, and Chemistry, by Professor A. P. Laurie, D.Sc., will be delivered at the Royal Academy during October and November. The lectures on Chemistry include "Sixteenth Century Methods of Painting" (November 12), "Modern Pigments" (November 14), "Methods of Wall Painting" (November 17), "Media, Oils, Varnishes, Tempera" (November 19), "The Theory of Colour and Its Application to Painting" (November 21), and "The Chemistry of Building Materials" (November 24).





From Sketches by MR. STANLEY J. WEARING, A.R.I.B.A. (*See* p. 259.)

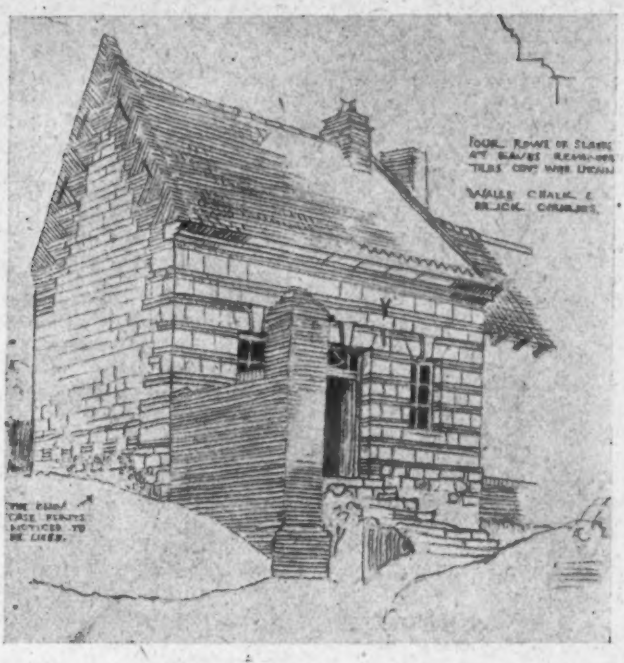
EXHIBITIONS OF THE WEEK.

Messrs. Colnaghi's Summer Exhibition. The Hamilton Palace Sale. Architectural Etchings by Mr. F. L. Griggs.

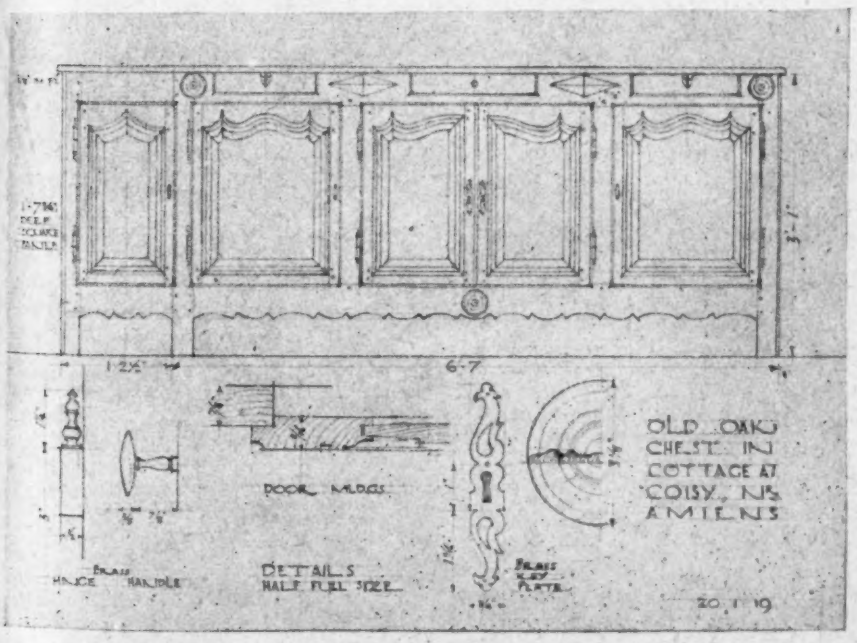
THE present exhibition at Messrs. Colnaghi's Galleries in Bond Street is one of etchings; and, on the whole, represents an interesting collection, without any features of remarkable novelty. Among the architectural studies, those of Frank Brangwyn, A.R.A., "Gateway at Assisi;" Mr. Strang's "Belfry at Bethune," showing the ruined tower and houses (in the "dry-point" method), and the same artist's "Zocodovar at Toledo," a not very interesting treatment of one of the most wonderful public squares in all Spain; M. Bauer's "Mosque el Azhar," showing some lovely detail, and his "Palace at Delhi," and Hester Frood's "dry-point" of the "Cloisters of Gravedona," all reach a good level, both of technique and general interest. The same may be said of Nelson Dawson's "soft-ground" etchings of the "Ponte del Paradiso" and "St. Mark's at Venice on a Sunday," in which the technique gives us something of the softness and rich quality of a good lithograph; while in figure subjects John Wheatley comes before us to good effect in his characteristic head of "Old Rogers," and his "Mother and Child." Figures, too, supply the motive for Sylvia Gosse ("Girl Sewing"), and Ethel Gabain, whose "Summer Night" shows a young lady in evening dress at the final stage of what suggests itself as a very satisfying dinner, while "A la belle etoile" presents Pierrot and Columbine reduced to passing the night under the park railings, with the gleaming stars as their only sympathising friends.

The sale which is expected at Messrs. Christie's, of the Hamilton collection promises to be one of very great interest, though some very choice pieces from this great family collection were disposed of in 1882, for a total of over £397,000. But the Hamilton family portraits were not offered then, and these included the Dukes of Hamilton, painted by Raeburn, as well as the beautiful Elizabeth Gunnings; and a Rubens painting was then offered. This last depicted "Daniel in the Lions' Den," and was originally given by Sir Dudley Carleton to Charles I.; it was sold in 1882 for 4,900 guineas, but rebought later by the Duke of Hamilton in 1885.

In our last week's notice of the Twenty-one Gallery Exhibition we mentioned the architectural etchings of Mr. F. L. Griggs. These etchings, often the outcome of the artist's own inventive fancy, are very clean strong work, frequently in "dry-point," and full of character. In this connection it has been well said of this artist that "his love of the Gothic architecture, which once gave to England so fair an aspect, lies behind all the etchings of architectural subjects, which so far represent his etched work, whether of imaginary scenes or subjects actually existing. The link between these is architectural and historical truth: for the imaginary scenes are not mere antiquarian compilings—they are such as might have existed, and did exist." In the present exhibition "The Pool" and "The Cresset" give some idea of the character of this imaginative creation.



Cottages on Poulainville Road, at Coisy, near Amiens.
From a Sketch by MR. STANLEY J. WEARING, A.R.I.B.A.



From a Sketch by MR. STANLEY J. WEARING, A.R.I.B.A. (*See* p. 259).

THE GATTIE TRANSPORT SYSTEM.

WHEN the Board of Trade Committee which is investigating the proposals of Mr. A. W. Gattie, for improving the methods of transport and the handling of goods, resumed its sittings last week, Mr. A. W. Gattie was represented by his brother, Mr. W. H. Gattie. In reply to questions, he expressed the opinion that, subject to suitable control and supervision, the undertaking should be run by private enterprise and not by the Government. There would not be more than ten clearing houses in England. Witness estimated that the pre-war cost of the central station would have been £14,000,000, and of the stations all over the United Kingdom, £300,000,000; this might now cost £1,000,000,000. There had been suggestions that the whole scheme should be assembled on a working scale, so that it could be seen at work, but they had been hampered by opposition from Government Departments. In the suggested clearing house, traffic arriving in London would be sorted for certain districts in London; each district would be represented by a bay, of which there would be rather more than 1,000, with, say, five lorries per section. This scheme had been offered to the Post Office, but rejected. It was proposed to reorganise the railway systems on the northern side of the station, by which much of the terminal work and shunting would be eliminated. It was not necessary for all stations to be erected simultaneously, and he was prepared to install the first part of the scheme, as a test, at the Gladstone Dock, Liverpool, or at Gravesend. According to Mr. Harper's report, the expenditure of £14,000,000 on the London station would result in a surplus profit of £9,295,948 per annum. In reply to a question, he admitted that the limiting factor of speed in the clearing house would be the clerical work, but this had been provided for. The chairman suggested a detailed estimate of the smallest installation which would give the system a fair trial should be provided, and the inquiry was adjourned.

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ILLUSTRATIONS.

Work of the Students of the Ecole des Beaux Arts, Paris.

WE give this week another design and plan from the collection of drawings of the students of the Ecole des Beaux Arts, Paris, recently exhibited at the Society of Architects' premises, Bedford-square.

Diploma Work in Civic Design, Liverpool University.

OUR illustrations this week include a section of the work executed for the Diploma in Civic Design, Liverpool University. The site selected was square in shape, and bounded on three sides by open fields. The other side contained an existing road of medium width, placed in the centre. The continuation of this road, forms the Avenue approach, which is terminated at the Green by a semi-circle. The houses are located along the Avenue and around the Green. The elevational treatment is an attempt at simplicity of arrangement, relying mainly for the effect by proportion, and a harmonious distribution of the roads and solids. An innovation of the Georgian style has been adopted. The exterior doors possess deeply bracketed heads, giving a contrast of light and shade to the general plot surface exterior, also widely projecting eaves. In the plan for types of houses are shown: (1) A, possessing a living room, scullery and three bedrooms; (2) B, has the same accommodation with the addition of a parlour.

GORDON HEMM.

Cinematograph Theatre, Walsall.

WE give this week a perspective sketch of the front elevation of a cinematograph theatre at Walsall. There is a shop on each side of the entrance, and cafés, with open-air balconies, on the first and second floors. Messrs. Percy L. Browne & Glover, of Newcastle-on-Tyne, are the architects.

Proposed Concert Hall, Frinton-on-Sea

As this town is built more or less on the Garden City principle, it was essential that the exterior should be in harmony with the existing surroundings, so that a 45 degree roof is employed to take tiles, and, in addition, to support the plaster ceiling on the under side. The hall is 60 ft. by 40 ft. by 32 ft. high, and is designed to hold 400 people, excluding the area for the orchestra. Cloak-rooms and lavatory accommodation are provided for both sexes, opening from the vestibule. These cloak-rooms can be used as light refreshment rooms when a dance is in progress.

The stage is 24 ft. by 14 ft. 6 in. by 20 ft. 6 in. to the soffit of arch, and is provided with clear exits at rear and sides. Plenty of room is also available for property, &c. It is proposed to fit a rolling lantern screen immediately behind fire proof curtain. Two rooms, both 14 ft. by 12 ft., are provided for dressing-rooms, with two lavatory basins in each, and a W.C. opening from each room. A library and reading-room is incorporated to satisfy the special needs of the town, and is 20 ft. by 14 ft. 6 in. This room is intended to be used for small meetings in addition to its proper purpose.

A small steel-lined cinema operating-room has been arranged in the roof with indirect access to the gallery, and is not intended for continual use, but only when necessary for illustrating lectures, &c. The floor of the main hall has been kept level for the purpose of dancing, and the stage is therefore shown at the height of 4 ft. to enable all persons in the hall to obtain a good view.

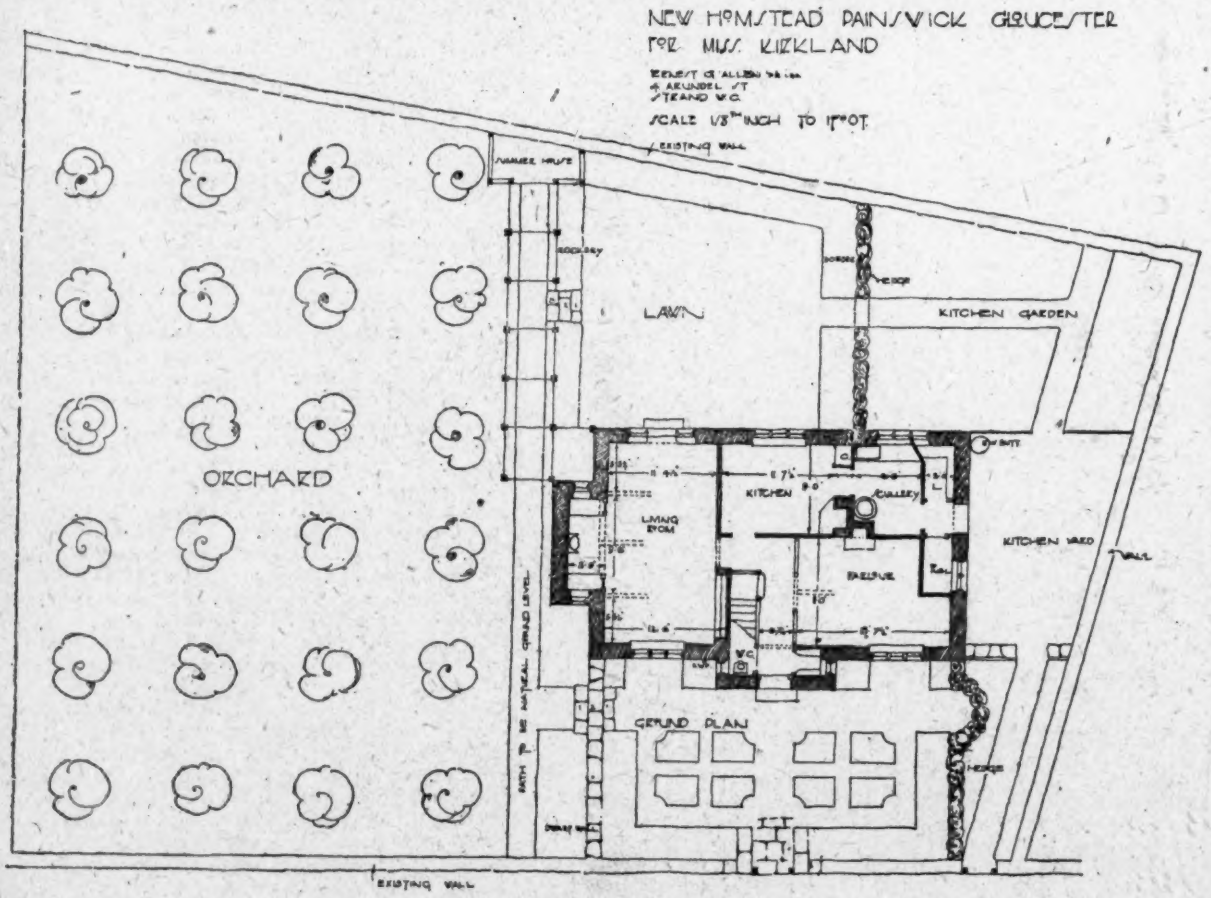
As the storage of chairs is often a serious problem in this type of building, the space under the stage, &c., has been augmented by a drop of 2 ft. in the floor level, thus providing a storage place which can be reached conveniently from doors at the side of the stage. The heating of the building is by low-pressure hot water radiators, the boiler for which is situated in the semi-basement under the library. The lighting to be by electricity, which is also to be used to assist the action of the Boyles extractors shown on the section.

This type of building makes a far more acceptable form of War Memorial than the conventional guns, crosses, &c., for, although we cannot help the dead, yet we can honour them by providing for the interest and welfare of the living.

GILBERT C. ROBERTS.

A Modern Textile Building.

THE illustration of a modern textile building is from the Royal Academy drawing of the mill of the Mill Lane Cotton Spinning Co., at Leigh, Lancs., and is one of the many cotton mills in the Leigh district of which Messrs. Bradshaw, Gass & Hope, F.F.R.I.B.A., of Bolton, have been the architects. The mill is for 85,000 spindles for spinning Egyptian cotton into fine counts. The windows are so arranged as to give clear and uninterrupted lighting over the full length of each pair of mules. The floors are all of concrete construction, on steel girders resting on cast-iron columns, designed so that no columns are in the wheel gates, and that, exeepting the columns, there is no exposed metal work in the whole building. In the spinning rooms the floors are boarded above the concrete, and over the concrete ceiling to the top spinning room there is a slated roof to help maintain an equable temperature. As work is carried on in a high temperature, a special ventilation and heating system is installed to give a constant supply of warm and filtered fresh air in every part. These highly-specialised buildings for the fine cotton spinning trade are protected against fire by automatic sprinklers, and the elevated water tank in the tower gives an automatic supply of over 7,000 gallons 16 ft. above the highest sprinkler.



MR. ERNEST G. ALLEN F.R.I.B.A., Architect.

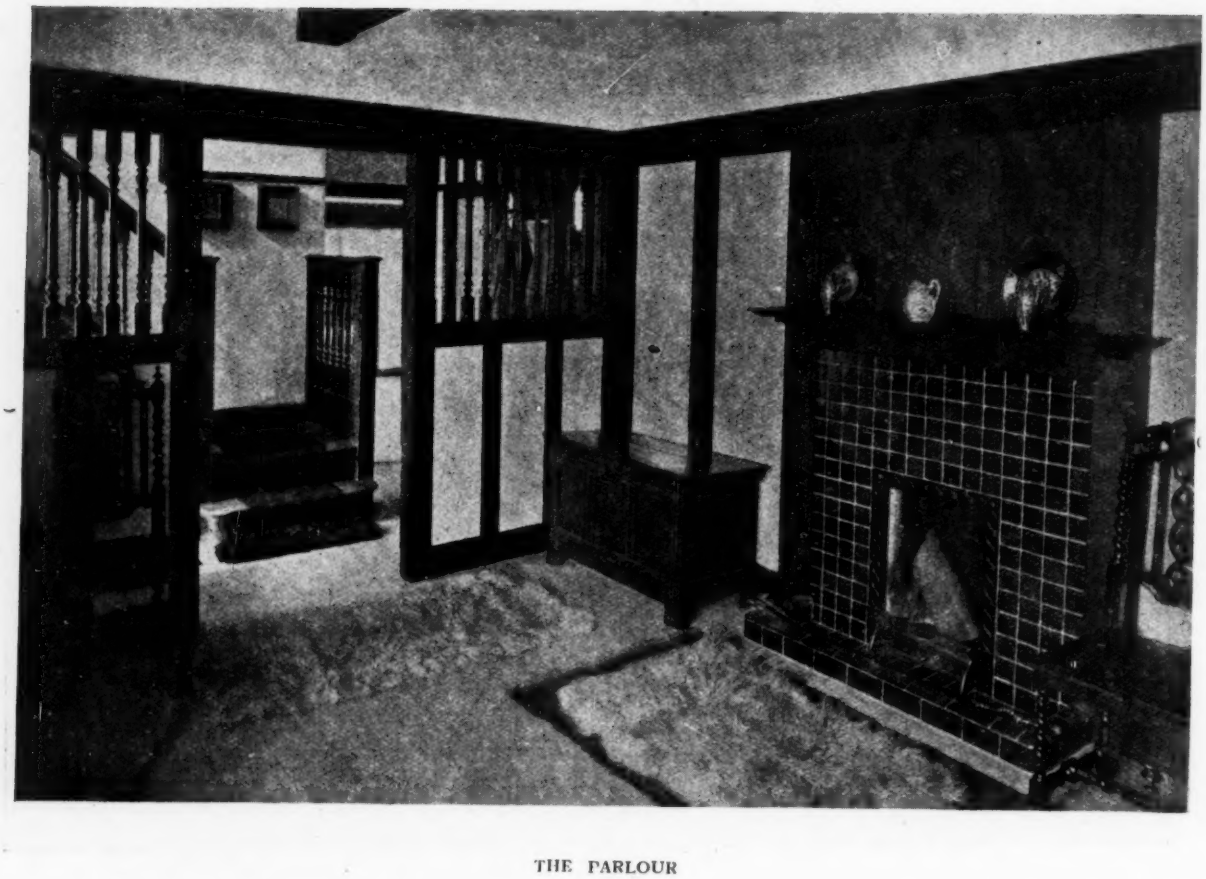
Homestead at Painswick, Gloucester.

The cottage is built in the Cotswold style, with local stone walling and roofs; the iron casements are filled with old cran glass. The accommodation comprises a large living room with angle, a sitting hall and offices on the ground floor, and three bedrooms and bathroom on first floor. Mr. Large, of Painswick, was the builder; and Mr. Ernest G. Allen, of 4, Arundel-street, Strand, the architect.

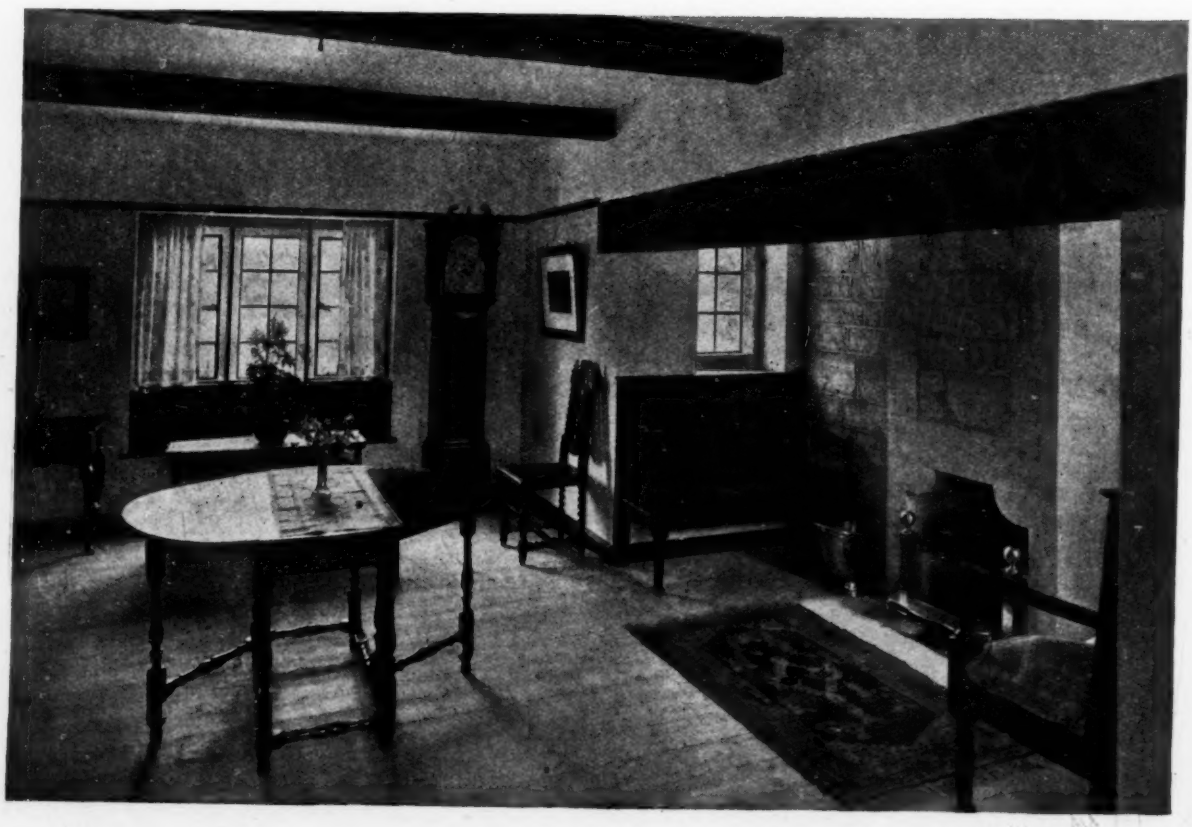
GARDEN FRONT

New Homestead, Painswick, Gloucester.

MR. E. G. ALLEN, F.R.I.B.A., ARCHITECT



THE PARLOUR



THE LIVING ROOM

New Homestead, Painswick, Gloucester.

MR. E G. ALLEN, F.R.I.B.A., ARCHITECT

THE DESTRUCTION OF COUNTRY COTTAGES.

By P. H. DITCHFIELD, M.A., F.S.A.

FREDERICK MAURICE, in 1834, published a novel, "Eustace Conway: or, the Brother and Sister," a copy of which he

Knock Hundred Row, Midhurst.

gave to his friend, Charles Kingsley, and this has now been presented to me. Naturally, I prize it highly. The story opens with the scene of a road-surveyor planning a new road in the presence of the squire and his daughter. He proposes to pull down a paper-mill, fill up a valley, destroying five cottages with the gardens and orchards, and to commit other abominations. A picturesque church rather stands in the way, and the surveyor has to own that "these churches prevent improvements more than all other things together." The satirical young lady, however, suggests that he should run the road up the centre aisle, make a graceful curve between the pulpit and the reading-desk, and cut off the sharp corner from the railings of the communion table. Mr Tomkins, the cheese-factor, she suggests, might be requested not to drive his tilbury during divine service, except in case of particular business. As to the cottages, when the surveyor assures the lady that the inhabitants would be compensated by the commissioners for the loss of their homes, the indignant lady replies:

"Compensation for the loss of wooden cottages covered with ivy, in which they have lived for twenty years! Were I Sally Jones, the eyes of the first commissioner who entered——"

It is with some such feelings as those of Sally Jones and the scornful lady that I contemplate the ruination of the appearance of the countryside threatened by housing schemes and revolutionary urban and district councils. Cottages will be condemned wholesale; and though architects may design substitutes for these not lacking in artistic quality, the face of the country will be changed, so that we shall scarcely recognise its former comeliness. The men who have fought that England might live, have shown in their poetry and in their letters that they realised the charm of the homeland, the village green surrounded by its circle of thatched or tile-roofed cottages, the church girt by its framework of trees, the old manor house, the village inn and clustering farmsteads. These are the pictures upon which, in imagination, our exiles fighting for their lives and for their homes loved to dwell. Is all this beauty to be sacrificed in a

Spread Eagle Hotel, Midhurst.

mad rush after new utilitarian enterprises?

No one desires more than the present writer that the agricultural labourer should be decently and adequately housed. It may be granted that some cottages are insanitary, that they do not provide sufficient accommodation for growing families, that they do not possess bathrooms, and many other things that a modern cottage can provide. But it is not beyond the scope of practical ingenuity to adapt and alter these old cottages so as to fit them for modern needs. There is no necessity for the drastic remedy of pulling them down. Nor do we country folk feel much confidence in the art and skill of modern builders in erecting new dwellings. Already we have had cause to lament over the intrusion of shapeless monstrosities in our midst. Already many a lovely dell and rustic paradise are disfigured by monotonous rows of hideous cottages, familiar to the denizens of overgrown towns where workmen congregate—each house its neighbour's twin, flush with the street, and devoid of anything beyond bare utility. It is true such alien homesteads in the country have a garden which their town brethren lack; but see the hideous bare-faced ugliness of these products of modern civilisation—the crude tints of the bare brick walls, the slate roofs, the doors and windows supplied by some cheap wood company by the thousand, each

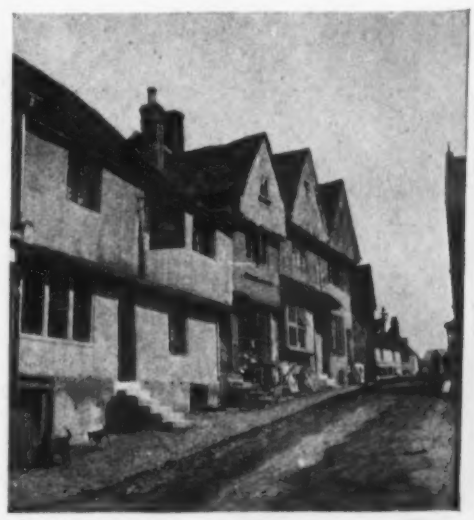
Bricklayers' Arms, Midhurst.

one like its neighbour; the little stunted chimney that juts out from the roof; and contrast this with the charming old English thatched and weather-beaten dwellings which visitors to our shores admire so greatly, and to which we countryfolk cling with whole-hearted affection.

Some of the new cottages are as disagreeable to live in as they are to look at, and some new punishment "to fit the crime" should be devised for the offending builder, who could thus spoil God's beautiful earth with such detestable enormities. They are sore places to live in, these modern cheap cottages. The jerry builder makes the walls so thin that the cold winds of winter seem to blow through them. The hot sun of summer beats down remorselessly upon the slate roofs, and makes the upper rooms almost unbearable; whereas a thatched roof will keep one cool in summer and warm in winter, and the old cottage walls are sturdy and strong, like our rustic labourers, and can defy the keen blasts of wintry storms.

A beautiful building, or a worthy memorial of the past, is not merely a local but a national asset. And this truth is more true than ever in these days, when the motor and bicycle have

Old House Midhurst.



Swan Hotel, Midhurst.

brought within the range of the people of England almost everything that is worthy to be seen and treasured, and have nationalised our inheritance in a sense that has never been so full before. Touring will be a sore pleasure if t is decided to destroy all the beauty of the countryside and fill it with ugly masterpieces. The present huge cost of building will preclude the expenditure of much money in rearing these new structures. Skilled architects are doing their best to devise plans and estimates, and the *Builder* has done much good work in publishing these. New cottages will have to be built, but why destroy the old ones? They are worth preserving for purely material reasons, and also for reasons that are neither purely material nor yet sentimental. Though small in scale and without any richness of ornament, yet they are beautiful examples of the humbler kind of domestic architecture, and, therefore, of peculiar value at a time when the humbler kind of domestic architecture is usually mean and debased beyond words. The sentimentalist would preserve them as keepsakes; and it might well be argued that public money should not be spent in preserving keepsakes when there is so much else to spend it on. But the real argument in favour of their preservation is much stronger and more practical. Good building will only flourish among us if we want it, and the taste for it is not likely to be excited unless it is quickened by the sight of the good building of the past. The more of that we destroy, the more contented we shall remain with the worst faults of our present building. They are shamed by the virtues of old buildings; and it often seems as if public bodies found that shame irksome, and wished to put an end to it by destroying everything good that arouses it.

The beauty of English cottage building consists in its directness, simplicity, variety, and, above all, its inevitable quality. Notice the intimate way in which the resulting buildings ally themselves with the soil, and blend with the ever-varied and exquisite landscape, the delicate harmonies almost musical in their nature, that grow from their gentle relationship with their surroundings, the modulation from man's handiwork to

Old Houses, Petworth.

Back of County Court House, Midhurst.

God's enveloping world that lies in the quiet gardening, that bind one to the other without discord or dissonance—all these are evident enough to those who have eyes to see and hearts to understand.

Foreigners who come to visit us realise the preciousness of the cottage perhaps more than we do ourselves. Hear what my friend, Mr. Reginald Adams Cram, the distinguished American architect, says of them in a preface to my book on Cottages (published in the States).*

"English cottages and their gardens possess an actual importance other than that which is most patent and obvious. Picturesque they are indeed, very singularly so in point of fact, and this quality gives them a notable claim to consideration in the new prizing of beauty that has slowly grown from the early days of the nineteenth century, when the old régime of artificiality and false standards, that had held for three hundred years, began to give place to a new dispensation wherein the sounder principles of the middle ages reasserted themselves. It would be hard to exaggerate the value of these little English cottages from this aspect alone. At a time when the craft of building amongst Anglo-Saxon races had reached the nadir of its fall and the classical, artifice, crude and crescent under Elizabeth, bold and over-blown at the hands of Wren and his school, had frittered itself away through the dying congelations of Anne and the Georges, reaching at last at the end of the eighteenth century a point below which there seemed no pit of further fall, the discovery of the typical English cottage was almost, in a way, like the finding of precious manuscripts preserved by the faithful monks from the wreck of the ancient world."

Such is the judgment of one of the foremost of American architects on the beauties of English cottage architecture. Perhaps our eyes are so accustomed to it that we do not stop to consider its graces and perfections, and may only begin to realise them when we are deprived of them. We have our Society for the Preservation of Ancient Buildings, our National Trust and others; but these only concern themselves with houses and places of greater magnitude than the humble cottage. A distinguished architect suggested to me a few days ago that all local archæological societies should unite in raising their voices in protest against the threatened destruction of the ancient cottage homes of England, and in devising some scheme for their preservation.

[The illustrations on this and the preceding page are from photographs taken by Mr. W. Will, of the *Graphic*, to whom we are much indebted.—ED.].

*"English Cottages and their Doorway Gardens." By P. H. Ditchfield. (The John C. Winston Co., Philadelphia, U.S.A.)

BOOKS.

Land Settlement Juvenile Unemployment. London: Ministry of Reconstruction. Price 2d. each.

THESE are two of the booklets dealing with reconstruction problems, issued by the Ministry of Reconstruction. The former gives particulars of the Government policy with regard to rural life and its conditions, and the facilities which it is proposed to grant for short-term credit, the supply of machinery, &c.

Lektrik Lighting Connections. London: A. P. Lundberg & Sons. Price 9d. net.

THIS is not merely a list of the well-known "Lektrik" switches, &c., manufactured by Messrs. Lundberg, but contains over 100 pages of information which cannot fail to be of use to anyone who has anything at all to do with electric lighting.

Causes and Consequences. By G. GORDON SAMPSON. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Price 2s. 6d. net.

AT the present period of high prices and industrial unrest, this book, in which the author endeavours to get at the root causes of the troubles, and suggests remedies which, in his opinion, will effect a lasting cure, is very timely. Strong arguments are put forward against nationalisation, the distribution of wealth and "ca' canny" tactics, and co-operation, a revised scheme of taxation, better education, and the resettlement of a large proportion of the population on the land as small owners, are among the methods advocated by which improvements could be obtained.

ECONOMIC JUSTICE. By J. Dundas White, LL.D., M.P. (London: The United Committee for the Taxation of Land Values). Price 6d.

Old Houses, Petworth.

PROPOSED REORGANISATION OF THE BUILDING INDUSTRY.

BY FREDK. L. DOVE, L.C.C., *President of the National Federation of Building Trades' Employers.*

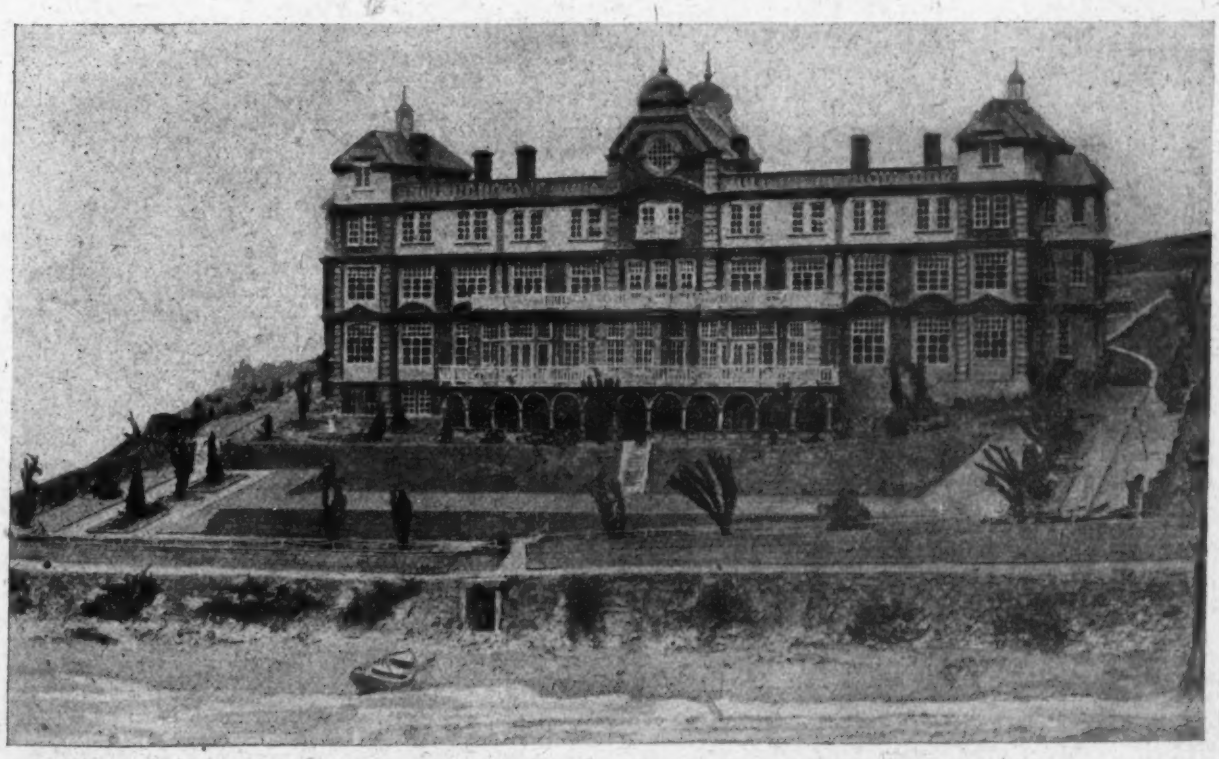
I THINK it would be unwise to attach undue importance to the report presented by the Scientific Management and Reduction of Cost Committee at the recent meeting of the Industrial Council. At the time it was appointed I very much doubted the utility of such a Committee, as if words meant anything it seemed to be formed for the purpose of instructing employers how to run their businesses. I venture to think this was an extraordinary and altogether unnecessary reference, as under present-day conditions, without the most up-to-date methods, machinery, and organisation are in operation, a business very soon occupies a very inferior position, if it does not entirely cease to exist; and the report presented pretty clearly demonstrates that the services of the Committee can very well be dispensed with. The Committee seems to have entirely departed from the reference that was given it, and devoted itself to a very second-rate Socialistic effort, which appears to be more suited to a mutual improvement debating society than to a serious effort to solve the difficulties under which the building industry at present groans. Had the members seriously addressed themselves to the burning question of improving the output, there might have been some excuse for such a departure, but when one reads its extremely voluminous report, coupled with the equally lengthy and visionary speech made by the Chairman in introducing it, and delivered in his accustomed courteous and gentle style, it strikes one as being almost wholly made up of generalities which we have all long since agreed to, and platitudes which mean nothing, because, after all, the only concrete proposal seemed to be that after the employer had received a fair return on his outlay the workmen should share in any substantial profit on the work, a consummation we have all for many years been striving for, but which most of the trade societies have resolutely set their faces against. The Committee entirely failed to bring forward any practical suggestions or to show how matters were to be dealt with in cases where a loss instead of a profit resulted, and the fact that the report was only signed by the workmen's representatives (who, of course, would support any proposal for giving the workmen more money, irrespective of earning it) and by one builder on the employers' side, I think gives the final touch to demonstrate its valuelessness.

The fact is that the burning question at the present time, around which everything centres, not only in our trade, but also in nearly all other industries of the country, is the increase of output, and those of us who have not taken the subject up lately, but have devoted considerable thought to it for a very long time (and it is gratifying to know that several trade union leaders, who are more concerned with trade matters than politics, agree with us), become more and more convinced that as soon as a satisfactory method can be adopted for giving a workman the full benefit of his individual skill and industry, the question will speedily right itself. This, it seems to me, can only be brought about by having a fair and proper minimum wage which will enable the most unskilful and least efficient man to support himself in comfort, and then allow the more able man to get the full benefit of his knowledge of his craft and his application to his work. This is a point which in the past the trade societies have persistently refused to recognise, but I am glad to know that some of the leaders of the societies are now coming round to our view. Only a few days ago, a very prominent leader of the men told me quite frankly that he was in favour of a man being paid a higher rate for his individual ability, and I feel quite sure that if only the union leaders will take their courage in both hands and go for something of the kind (the details can easily be worked out by a joint conference) they will have at their backs the cream of the members of their societies, and escape the domination of the noisy and less efficient minority, who have of recent years made their influence felt so strongly and out of all proportion to their numerical strength.

The ideal would, of course, be "profit-sharing," but that, I think, must be regarded as Utopian and hopeless for a variety of reasons which I need not now discuss, and also because where it has been tried it has not proved a success. We have to take human nature as we find it, and it is both hopeless and grossly unreasonable to expect a first-class man to be enthusiastic over his work when he finds his semi-incompetent, and often dilatory mate, getting the same money at the end of the week that he himself receives. I confess, as one of the first and most enthusiastic supporters of the Industrial Council, my bitter disappointment that so much time was recently wasted over the academic and very nebulous report of this Committee, more particularly when there are so many matters of first-class importance for the Council to deal with, and I am afraid that, if this sort of discussion is allowed to develop, the usefulness of the Council will be seriously jeopardised, if not entirely destroyed.

Trade with Hungary.

In view of the raising of the blockade, the Board of Trade has issued a General Licence, under the Trading with the Enemy legislation, authorising, with certain reservations, the resumption of trade with Hungary. The licence does not remove the existing restrictions upon the payment of debts and the return of property due or deliverable to persons in Hungary, in respect of pre-war transactions. Moreover, any permission which may be necessary in respect of any transactions under Defence of the Realm Regulation 41 D must be obtained from the Treasury. The licence does not permit the importation from Hungary of any goods included in the Prohibition of Import Proclamations and not covered by a General Licence issued under those Proclamations. Export licences must be obtained from the Export Licence Department, 1, Queen Anne's Gate Buildings, S.W. 1, before goods included in lists "A" and "B" of prohibited exports are shipped to those countries, but no licences are now required in respect of goods included in List "C."



Convalescent Home, Langland Bay, (*See* p. 270).
MR. WM. WADMAN, M.S.A., Architect.
(From a model by Mr. JOHN B. THORP.

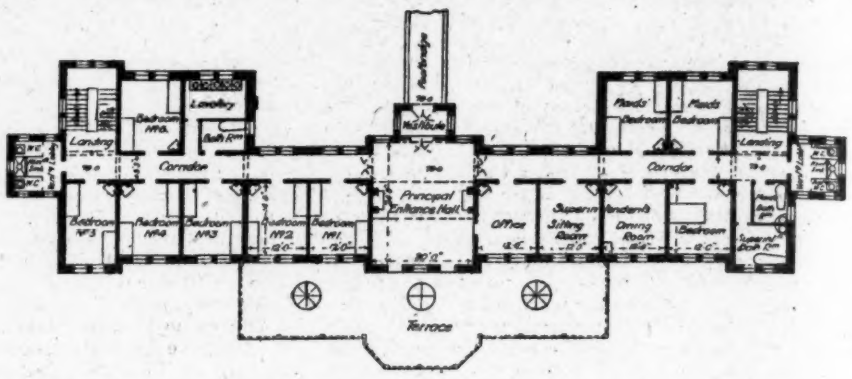
"CLUB AND INSTITUTE UNION" CONVALESCENT HOME.

THIS home is to be erected at Langland Bay, near Mumbles, Glam., on a site about 100 feet square, bounded on the north by Alma-road, and on the south by a cliff walk, known as the Promenade, looking directly south on to the bay, and the Bristol Channel. The site falls towards the south-west corner, falling on the east side 36 ft. 9 ins., and on the west side 26 feet, and the upper-ground floor is approached by a footbridge from the road. The home will be designed to accommodate forty residents in separate bedrooms, with entrance and lounge halls, dining room, day room, reading and writing rooms, &c., and the necessary accommodation for superintendent and staff. The external walls will be built hollow, and faced with pressed red brick with stone dressings, having to the south front reinforced-concrete and asphalted balcony and terrace, with arcaded sun shelter under the former, the main roof being a reinforced-concrete and asphalted flat with a winter garden in the centre. The grounds will be laid out with a large bowling green in front. This will be the fourth home belonging to the Club Union, the others being at Pegwell Bay, Kent, Saltburn-by-the-Sea, Yorks, and Grange-over-Sands, Lancs. The architect is Mr. William Wadman, M.S.A., Jerningham-road, S.E. 14, and the model has been executed to one-eighth-inch scale by Mr. John B. Thorp.

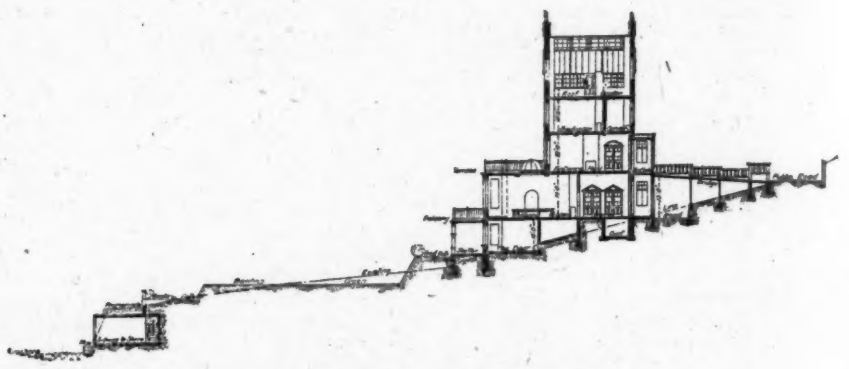
PRODUCTION AND UNEMPLOYMENT.

DISCUSSING the question of labour in the building industry, Mr. John Murray, M.P., in the current issue of *Unity*, points out that the cost of the hundreds of thousands of new houses which are to be built will be very heavy and in some cases prohibitive. The cost may be veiled by subsidies, but directly or indirectly, the burden will have to be shouldered by the community. Labour is probably the most variable factor which enters into the cost of building, and if the men in the industry could be persuaded, or if it could be made worth their while, to accelerate their work, then the new cottages would cost much less. Much of the construction is standardisable. It would lend itself to repetition production and to payment by results. The actual building might be done as sheer assembly work by gangs of men working on a collective piece-rate. There is room, and, indeed, a very favourable opportunity, prima facie, for every method and motive whereby production can be stimulated. Yet everyone knows how useless it has been up to the present to try to get payment by results adopted in the building trades. So strong is the prejudice in favour of time-work, so habituated the hostility to the various forms of payment by results, that the woodworkers engaged on aeroplanes during the war fought the introduction of payment by results with the greatest determination, and on the whole they won. They could have increased their earnings largely, and their output, but they would have given away their principle of time-work, and their fighting position, on their return to normal work of housebuilding, would have been weaker.

The men in the building trades, says Mr. Murray, adhere emphatically to time-work, because they think, like any other class of workman, that thus they can stabilise their conditions and obviate, or at least mitigate, unemployment. In the building trades, the uncertainties of employment are very great, owing to men being at the mercy of the seasons, of the weather, of booms and slumps, and of every speculative influence. It is no wonder that they refuse to add "speeding-up" to the other factors that make up their serious risk of unemployment. There are so many snags in the way, they think, that "go easy" is their best policy. If the hardships resulting from unemployment could be lessened, Mr. Murray thinks that the incentives to a low output would be greatly reduced, and he suggests that the benefits of unemployment insurance should be so increased that unemployment would be less formidable.



UPPER GROUND FLOOR PLAN.



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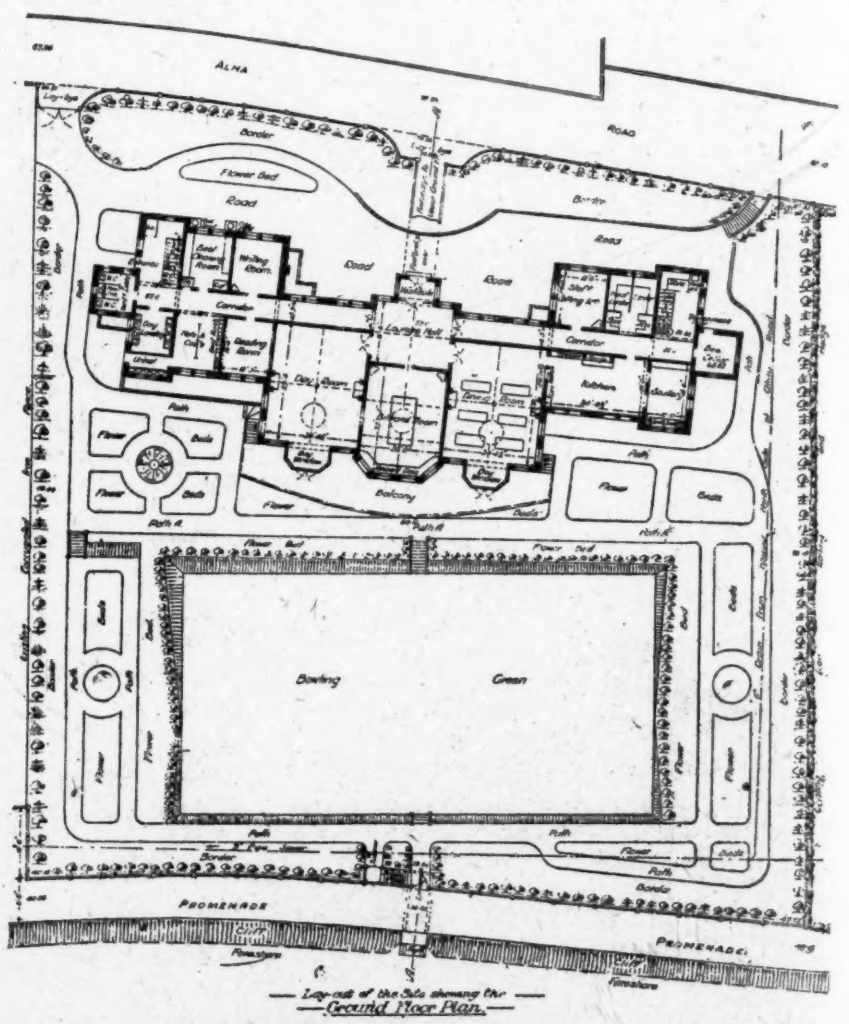

— Lay-out of the Site showing the —
Ground Floor Plan.

Convalescent Home, Langland Bay.
MR. WM. WADMAN, M.S.A., Architect,

AS DRY AS THE DESERT.

PUDLO

COTTAGES.

The various authorities are insistent that the houses of the "workers" shall be free from dampness.

For instance, the National Housing Council recommends that an impervious layer should be placed under all floors to save the health of the inhabitants. In the recent "Memo. for the use of Local Authorities" the need for the prevention of rising dampness from under the floor boards is emphasized.

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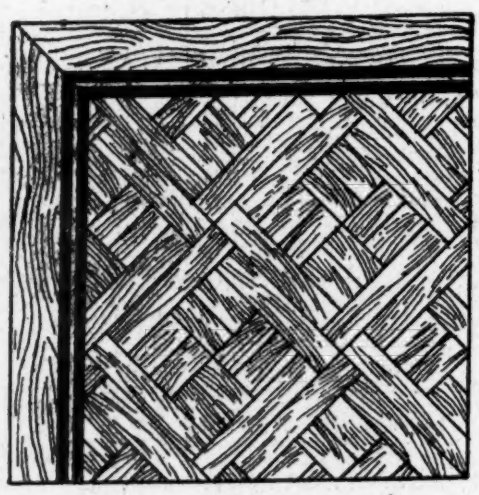

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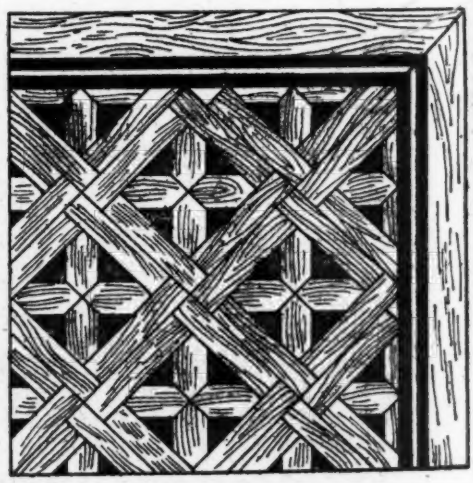

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HOUSING AND TOWN-PLANNING NOTES.

Aldershot.

At the meeting of the Urban District Council last week it was reported that the Council's housing scheme had been returned from the Ministry of Health with a long schedule of suggested amendments. The Chairman of the Housing Committee said that if all the amendments were adopted, very heavy maintenance charges would be incurred on the houses in a very short period; the Ministry had asked the Council to do things which any jerry-builder would not be allowed to do. The Ministry had reduced the foundations to six inches of concrete, reduced the number of rafters, and had cut off everything in the way of ornamentation. The Council sent a protest to the Ministry intimating that it was ready and willing to build houses, but would not be a party to the erection of jerry-built houses.

Guildford.

It is estimated that the recent award of increased wages to building trade operatives in the West Surrey district will increase the cost of the 82 houses which the Guildford Corporation is erecting by £5,500.

Liverpool.

At a meeting of the Town Council last week, it was stated that an application by the Housing Committee to acquire 430 huts at Knotty Ash Camp, had been shelved by the Government department concerned, and the sale of the huts by public auction had commenced.

Northampton.

The Town Council has commenced the erection of army huts, to relieve the housing shortage, and it is expected that 14 at Abington Park will be ready for occupation this week.

More Cottage Designs.

The results of the *Daily Mail* Cottage Competition are before us in the shape of three folios of illustrations of design sent in from the Northern Industrial Area, the Midland Industrial Area, and the Southern and Midland Counties Rural Area. Each folio contains fifty-four pages of illustrations, and is priced at 5s. net. We imagine they will be of more interest to the public than to architects, who know how slight are the variations possible in the designs, and that out of a hundred and fifty designs there cannot be many which merit a place for reference in a library. Frankly, we should be sorry to see more than a few of the designs executed at all if we could make a choice, as few, indeed, suggest that their authors had any understanding of true architectural values in proportion or emphasis. As for the plans, we fear that, without a change in the attitude of tenants as to their mode of life, any radical improvement in plans is impossible. The insistence on complicated detail and subdivision of space makes the healthiest form of cottage impossible.

Stretford.

The Ministry of Health has sanctioned the borrowing by the Urban District Council of the sum of £11,300, for the purchase of land at Gorse Park, for housing purposes. The Housing Committee has recommended that the plans placed first in the recent competition, as adjudged by Prof. Abercrombie, the assessor, be adopted for the lay-out of the site. Tenders have been provisionally accepted for the erection of 16 houses, in Henrietta-street, at a cost of £12,400. Tenders are also about to be invited for 37 houses off Lacey-street.

Housing Surveys.

We have received a copy of D 89, being a Form of Survey for Housing needs under the Housing Act of 1919. This is a ten-page document, which borough, urban and rural authorities are requested to fill in in order that the Central Authority may be in a position to appreciate fully the local conditions as they affect housing requirements, and is to be returned to the Housing Commission by the end of October. Section I deals with staple industries and their probable development or reduction, and requires population statistics, present house accommodation details, and particulars of overcrowding. Section II deals with the estimated need of houses, to be stated in tabular form under various headings, such as growth of population, clearance of unhealthy areas, and special industrial development. After this, prospects of house erection through public utility societies, trusts and other agencies must be given. Section III requires details of unhealthy areas to be dealt with under Parts I and II of the Act of 1890, giving acreage, houses, population, and so on. Section IV requires details of insanitary houses, and proposed action in regard to them. Section V demands a map of the district under review, coloured in a specified manner to show unhealthy areas for purposes of improvement under Parts I and II; areas likely to come under this heading; areas containing seriously defective houses which can be dealt with otherwise than as above; and better areas which still, however, need improvement. Section VI deals with detailed accommodation of the proposed houses, number per acre, time for erection, and other matters.

We hope that this store of information when obtained will be duly digested, and imagine that some of it, particularly the coloured map, will give the medical officer a good deal of worry. We do not know whether any use is being made in this connection of statistics collected during the war by the Civic Survey, which should presumably give some of the information asked for. We do not doubt the value or necessity of the particulars desired, but our experience of Government departments has suggested that in the past—at least during the war—there has been a tendency to redundancy or, shall we say, redundancy with variations in statistical demands which, when obtained, have been known to receive less dissective efforts than the labour of their compilation deserves.

Priority of Building.

Many instances have come to the notice of the Ministry of Health of the use of considerable quantities of building materials and labour for the erection of picture palaces. The Ministry has no powers to prohibit the erection of such buildings, but Dr. Addison has announced that he would not hesitate to seek such powers to safeguard the housing schemes, and would welcome evidence which would strengthen his hand in this direction.

Cottage Designs.

The pair of cottages illustrated on this page were designed for erection in the county of Surrey, and are of the bungalow type. The ground floor accommodation comprises living room, 15 ft. × 13 ft.; parlour, 12 ft. × 10 ft.; one bedroom, 13 ft. × 11 ft.; good entrance hall and offices—all self-contained—and no outbuildings. There are two bedrooms, 13 ft. × 12 ft.; bath-room and w.c. (one in roof space). The walls are of 9 in. brickwork, finished externally with rough-faced plaster with tarred plinth. The roof is covered with hand-made tiles and gables filled with elm boarding left untouched; lead glazing in short wood frames to windows. Cubic contents, 13,000 cubic feet per cottage.

T. FRANK HAWKES.

A Pair of Cottages, Oxshott, Surrey.
MR. T. F. HAWKES, Architect.

WEEKLY HOUSING RETURN.

During the week ended August 30, 161 new housing schemes were submitted to the Ministry of Health, and 110 schemes were approved. The total number of schemes submitted by local authorities and public utility societies is 4,546, comprising approximately 44,000 acres. The total number of schemes approved is 1,419, covering about 18,200 acres. Several of the schemes were received from local authorities in mining districts. The largest scheme of the week was promoted by the Chester-le-Street Rural District Council, and relates to an area sufficient for over 1,500 houses. The Staffordshire, South Wales and Yorkshire coalfields are also represented in the week's schemes. Schemes in their later stages are now being submitted in greater numbers. House plans from Nottingham (350 houses), Birmingham (317), Eastbourne (178), Manchester (150), and Croydon (129) were approved during the week. Altogether plans for 1,916 houses were submitted, and approval given for 1,475.

The attention of local authorities has been called to the obligations placed on them by the new Housing Act, and a summary of the principal provisions of the Act has been supplied to every member of local authorities. The Act requires each local authority to consider the needs of its district, and to submit a scheme by the end of October. Approved schemes which have already been submitted, may, if the Ministry thinks fit, be regarded for the purposes of financial assistance as a contribution towards meeting the requirements of the Act. The majority of the local authorities had submitted schemes before the Act came into force. Information is also to be supplied to the Ministry as to the slum areas which require to be dealt with, and as to insanitary houses in other parts of the district of the local authority. The Ministry has indicated to local authorities the lines on which inquiries may be made to ascertain the needs of the district. Various sources of information, both official and unofficial, are suggested, *e.g.*, the local food control committees and social organisations. Arrangements have been made for the staff of the Regional Commissioners to give assistance, where it is desired, to local authorities in the carrying out of the survey of their districts and in the preparation of schemes.

Details of local authorities' schemes dealt with during the week are as follows:—

Building Sites.

Schemes Submitted.—The number submitted, by 55 local authorities, was 160, bringing the total to 4,481, covering approximately 41,000 acres. The districts and number of acres of the new schemes were as follows:—

URBAN.	ACRES.
Merthyr Tydfil (3 sites) ..	47.00
Uxbridge	27.38
Midsomer Norton (3)	15.80
Bedwas and Machen	14.00
Ince-in-Makerfield	13.00
Sandwich	10.00

Amlwch (2), 8.27; Barnet, 4.57; Biddulph, 8.50; Coulsdon and Purley, 1.54; Feltham (1); Lambeth, 9.25; Lymm (2), 7.5; Marlborough, .94; Seghill, 3.5; Stretford, 2.18; Turton (3), 8; Ulverston, 1.75.

RURAL.	ACRES.
Chester-le-Street (13 sites) ..	183.87
Thorne (6)	48.78
Wilton (21)	31.67
Runcorn (3)	22.50
Plympton-St.-Mary (3)	18.34
Aylsham (5)	13.13
Winchcombe (8)	10.34
Sunderland	10.00
Long Crendon (5)	10.00

Banbury (3), 4.5; Bedale (6), 2.42; Blackwell, 3; Bosmere and Claydon (5), 7; Brailes (3), 3; Brixworth (2), 1.13; Bromsgrove, 0.08; Cannock, 6.61; Cricklade and Wootton Bassett (3), 6.5; Epping, 2.86; Eton (2), 9.75; Fordingbridge, 3; Grantham (2), 1.34; Hardingstone, 2; Malling, 0.75; Market Harborough (2), 8.81; Morpeth, 6.75; Newport Pagnell, 7.51; Northallerton (12), 4.98; Sefton (7), 4.25; Settle, 0.4; Spilsby (2), 1.75; Stockbridge (1), 0.94; Tamworth, 5.48; Westbourne, 3.8; West Lancashire (4), 3.58; Whiston, 0.5; Wokingham (2), 2.69.

Schemes Approved.—One hundred and seven schemes were approved, comprising 515 acres. The total number of local authorities' schemes now approved is 1,392, representing approximately 18,200 acres. The districts and acreage of the new schemes are as follows:—

URBAN.	ACRES.
Baldock	11.00
Bedwellty (2 sites)	16.05
Blackburn (3)	52.07
Bridgwater	12.75
Colchester	10.47
Crewkerne	14.53
East Grinstead	15.51
Great Yarmouth	16.62
Malvern	16.73
Middleton	25.64
Rothwell	48.83
Tipton (8)	15.76

Merthyr Tydfil, 9.75; Lichfield, 7.84; Devizes, 6.5; Clevedon, 5; Whittington and Newbold, 3.86; Wilmslow, 3.15; Bala, 3.03; East Dereham, .97.

RURAL.	ACRES.
Leigh (2 sites)	66.13
Oswestry (7)	32.21
Chirk	16.95
Depwade	11.17

Bakewell (3 sites), 7.08; Bedford, 3; Bourne, 1; Brailes (11), 8.2; Braintree (2), 5; Buntingford (2), 2.06; Chipping Norton (2), 6.39; Crick, 0.4; Forehoe (2), 5.19; Hadham (5), 5.66; Hawarden, 7.88; Henley (3), 5.5) Henstead, 0.75; Hertford, 3; Huntingdon, 1.5; Morpeth (6), 2.13; Saffron Walden (4), 6.49; St. Albans (4), 5.5; Skipton, 4.5; Thakeham (3), 2.5; Uckfield, 0.95; Wallingford (3), 6.5.

COUNTY COUNCIL.—Huntingdon, 1.5.

Lay-Outs.

Schemes Submitted.—Thirty-one schemes were submitted by 22 local authorities, bringing the total to 760. The 31 schemes are as follows:—

Urban.—Abergavenny, Blackburn, Croydon, East Barnet Valley, Ebbw Vale, Hitchin, Leamington Spa, Nottingham, Salisbury, Seghill, Stretford, Warwick, Wembley, Whitley and Monkseaton, Worsley (3).

Rural.—Blackburn (3), Frome (5), Haltwhistle (2), Hemsworth, South Westmorland, Thame, Walsingham.

Schemes Approved.—The following 27 schemes, submitted by 26 local authorities, were approved, bringing the total to 370:—

URBAN.—Bentley with Arksey, Burnham-on-Crouch, Eastbourne, Ebbw Vale, Eston, Great Yarmouth, Hitchin, Ilminster, Ipswich, Kensington, Leamington Spa, Leeds, Newport (Mon.), Plymouth, Ripon, Warwick, Wembley, Whitstable.

RURAL.—Buntingford, Chepstow, Crick, Huntingdon, St. Ives (2), Wincanton, Wycombe, Ystradgynlais.

House Plans.

Schemes Submitted.—Thirty schemes, representing 1,471 houses, were submitted by 25 local authorities. This brings the total to 453, representing 25,788 houses. The new schemes are as follows:—

URBAN.—Abercarn (2 schemes), 112; Aberdare, 72; Bentley with Arksey, 32; Birmingham, 317; Eastbourne (2), 178; Ebbw Vale, 38; Epsom, 31; Harrow-on-the-Hill, 20; Hitchin, 76; Huddersfield, 40; Irlam, 71; Leamington Spa, 34; Manchester, 150; Sherborne, 36; Stowmarket, 10; Warwick, 66; Wembley, 18; Whitstable, 51.

RURAL.—Buntingford, 6; Chepstow, 25; Crick, 4; Warminster, 8; Wincanton, 10; Wycombe, 30; Yeovil (4), 36.

Schemes Approved.—Thirty schemes, representing 1,860 houses were approved, bringing the total to 275, representing 16,940 houses. The schemes newly approved are as follows:—

URBAN.—Abercarn (2 schemes), 112; Bangor, 16; Barnet, 48; Birmingham, 317; Blackburn, 135; Colwyn Bay and Colwyn, 66; Croydon, 129; East Barnet Valley, 46; Ebbw Vale, 38; Hitchin, 76; Hyde (1); Irlam, 71; Leamington Spa, 34; Manchester, 150; Nottingham, 350; Rothwell, 14; Warwick, 66; Wembley, 18.

RURAL.—Blackburn (3 schemes); Crowmarsh, 30; Epping, 4; Haltwhistle (2 schemes), 76; Hemsworth, 22; Hitchin, 30; Lanchester, 8; Walsingham, 4.

Conversion of Houses into Flats.

The Ministry of Health announces that it has now issued for the instruction of local authorities the Manual on the conversion of houses into flats for the working classes. The new Housing Act gives local authorities the power to acquire suitable houses and convert them into flats, and while the Ministry is anxious that local authorities should not in any way relax their efforts to hasten the erection of new houses, it thinks such efforts should be supplemented by these powers of conversion in order to secure as great an increase in the amount of accommodation as is possible before next winter. The owner of a house may desire to undertake its conversion himself, and, in such a case, the Housing Act enables the local authority to lend the whole or part of the cost, though the loan must not exceed one-half the estimated value of the property. The Manual now issued indicates the procedure which will be adopted in such cases. It is suggested that the rate of interest to be charged to the owner should be ½ per cent. above the rate at which the local authority can borrow, and the Ministry is of opinion that repayment should be required not less frequently than every half year. When houses which could be converted into working-class tenements are available, but no proposals for conversion are made by the owners, the Ministry urges local authorities to acquire the houses themselves, either by agreement or compulsory purchase, and to convert them into flats. The Manual points out that local authorities, by reason of their local knowledge, will usually be in a position to judge whether a particular property is suitable for conversion. It is not practicable to lay down rules for their guidance, but the widest scope for the operation of a scheme of this kind will probably be found in districts which consist mainly of large houses for which the demand has fallen away owing to changes in the character of the neighbourhood. It is not suggested that a local authority should seek to acquire empty houses indiscriminately, and it would be undesirable to acquire an individual house which happened to fall empty in a neighbourhood in which similar houses continue to let without difficulty. Local authorities should not limit inquiries to large houses; terrace houses, when taken in groups or two or more, being capable of conversion into convenient flats with one common staircase. Houses which can be converted with a minimum of cost are to be preferred. The total cost of the acquisition and conversion should be very substantially less than the cost of the provision of an equal number of new houses. The Manual outlines the procedure to be followed, in acquisition by agreement, and in acquisition by compulsory purchase. The Manual can be purchased directly from the depots of the Stationery Office, or through any bookseller.

The Liege Town-Planning Exhibition.

In order to allow the members of the Liége Association to participate in a similar exhibition, being held in Brussels this month, the Town-Planning Exhibition, announced to take place this month at Liége, has been postponed until February, 1920.

STANDARD SPECIFICATION FOR COTTAGES.

WE give below the standard form of specification for State-aided housing schemes, with which all schemes which have not gone to tender, or were not at the point of going to tender at the date of the issue of the Memorandum, must comply. The specification is to be adapted to local conditions and to the requirements of the particular works by alterations made in red ink and initialled by the architect. Except where variations from this standard form are rendered desirable by local conditions, the Ministry of Health will not be prepared to approve of schemes which show deviations from this form. In view of its present scarcity, timber should not be used where other materials of equal or less cost and of equal efficiency can be substituted.

SPECIFICATION of Works to be Executed and Materials to be provided for the Erection and Completion of Cottages.

This specification with the drawings of the respective types of cottages forms part of the contract between and

1. *Preliminaries.*—The work to be done under this specification is intended to include all the general work preparatory to its execution; for the compliance by the contractor with all the conditions of the contract; for the plant, scaffolding, tools and sheds; proper and sufficient protective works; notices, licences, and fees; for fire, workmen and other insurances; mess rooms for workmen; regular clearance of rubbish; and for all other matters necessary for the completion of the several works satisfactorily to the true intent and meaning of the drawings and this specification. Adequate latrine accommodation is to be provided and kept in a proper sanitary condition, and wherever practicable a connection is to be made immediately with public sewerage for the same, and the trapping and ventilation thereto are to be carried out in accordance with the regulations. Clear away the latrines and soil whenever necessary, and make good at completion all work disturbed by the erection of these conveniences. Provide the water necessary for the use of the works. Provide all necessary appliances for keeping the trenches and excavations free from water during the execution of the works. Provide a suitable office, with the necessary heating, lighting, furniture, and sanitary accommodation, for the use of the architect when he is visiting the works, and for the clerk of works and for all attendance during the period of the work. Provide the necessary watchman for the protection of the works, and such lighting as may be found necessary. Provide any protection around the site that may be necessary for the public safety. Attend upon, cut away for, and make good after all trades in all trades. Protect and keep free from damage due to the operations under the contract, all fences, paths, trees, shrubs, greens, and other surfaces about the buildings or approaches thereto which are required to be maintained.

EXCAVATOR AND CONCRETE.

2. *Surface Soil.*—Carefully remove and preserve any turf and stack where directed. Remove the vegetable earth or other surface soil to the depth required under the houses, and deposit the material in separate heaps for use or for clearing away eventually, and clear away what is not needed. All excavation is to be disposed of on the site, if possible.

3. *Trench Digging.*—Excavate below the foregoing level for the trenches required for the foundations to all the walls, piers, chimney breasts and other work indicated on the drawings to the lengths, widths, and depths shown, or to greater depths should the earth at the levels indicated not be sufficiently solid for a good foundation. Level the bottoms of the trenches for the concrete.

4. *Strutting and Planking.*—Strut and plank all excavations wherever necessary.

5. *Filling In.*—Fill in and ram the best of the excavated earth about the foundation of walls, &c., and deposit or clear away the surplus as required.

6. *Consolidate Earth.*—Well level, ram and consolidate the earth below all floors and pavings, concrete, &c. All trench bottoms are to be inspected and approved by the architect before any concrete is laid therein.

7. *Lime.*—Where suitable blue lias or stone lime can be obtained locally they can, except as hereinafter specified, be used in place of Portland cement.

8. *Cement.*—The Portland cement is to be of approved manufacture, of a quality which complies with the requirements of a current specification adopted by the British Engineering Standards Committee, slow setting quality to be used generally.

9. *Gauging Concrete, Mortar, &c.*—Provide the necessary boxes for accurately measuring the ingredients for concrete, mortar, plastering, &c. All gauging and mixing is to be performed on proper wooden platforms.

10. *Aggregate for Concrete.*—The aggregate for concrete is to be composed of hard bricks free from lime mortar, stone, gravel, or other approved material broken to various sizes, but all to pass through a 1½ in. ring, with sufficient clean river or pit sand to fill up all interstices.

11. *Concrete in Trenches.*—For the foundations of all walls, piers, chimney breasts, &c., concrete of the sections shown on the plans, and composed of one part by measure of cement to eight parts by measure of the aggregate and sand, is to be laid in the trenches and carefully levelled to receive the brickwork. If ground lime is substituted for cement, it must be gauged six and one for hydraulic lime, and four and one for stone lime.

The materials are to be well mixed in small quantities by turning over with a rake and shovel until the colour of the cement is distributed over the aggregate, and then with a due proportion of water, which is to be applied through a rose, and the concrete so prepared is to be at once deposited into the trenches and well consolidated.

12. *Foundations.*—Excavate for and lay Portland cement or lime concrete foundations, as described, those to external and party walls to be not less than 12 in. wider than bottom of wall, those to internal walls to be not less than 9 in. wider—none to be less than 6 in. thick. The bottom of concrete is to be not less than 2 ft. below the level of the finished ground outside the houses, but in clay soils the bottom of the concrete must not be less than 3 ft. 6 in. below the level of the finished ground outside the houses. The bottoms of all concrete foundations to walls must in all cases go at least 9 ins. into the virgin soil, except where the foundation is in shale, chalk, rock, or other ground of a like nature, when the bottom of the concrete can commence directly either of these materials is met with.

13. *Concrete on Sloping Sites.*—In steeply sloping sites in clay, where the foundations owing to the natural slope of the ground would come at or near the surface, they are to be taken down at least two feet into the virgin soil.

14. *Surface Concrete.*—Lay over the whole surface of the buildings a bed not less than 4 ins. thick of Portland cement concrete similarly composed to that described for the trenches, levelled and prepared where necessary to receive such other floors and pavings thereon as may be specified.

15. *Granolithic Paving, &c.*—The floors in scullery, w.c., e.c., coal store, larder and back lobby are to be finished with a 1 in. thickness of cement and either limestone or granite chippings (two of cement to five of the material used) brought up to a hard, smooth, trowelled surface and kept damp for seven days after laying.

16. *Concrete Lintels.*—The concrete lintels are to be composed of one part of Portland cement, four parts of the aggregate to pass 1 in. ring, and two parts of sand. The lintels are to be reinforced by a steel rod ½ in. diameter for openings up to 4 ft. wide and ⅝ in. diameter for openings above 4 ft. wide for every half brick in thickness of the wall carried, or for every 6 in. in thickness where stone walls are supported. The lintels are to be 6 in. deep for all apertures up to 4 ft. in clear width and 1 in. deep for each additional foot or part of 1 ft. beyond 4 ft. The lintels are to bear 6 in. on the walls at each end.

17. *Concrete Eaves Course.*—If a projecting eaves course is desired, it may be formed of similar concrete to that last described, not less than 4 in. thick and reinforced with ½ in. diameter steel rods at right angles to the wall spaced 2 ft. apart near the upper surface and finished with roughcast or cement and sand or harled as described in "Plasterer." Where these occur over window openings they are to be cast in long lengths to act as lintels with two ½ in. diameter steel rods embedded lengthwise in the same in addition to the rods above specified. The wall plate carrying rafters must be bedded on the inner edge of the concrete eaves course.

OUTSIDE PATHS AND PAVINGS.

18. *Paths and Paving in Yards.*—All pavings, gravel or ash paths are to be carefully laid to fall towards approved drainage courses. Excavate for and form the back garden paths with 3 in. of ashes well rolled in. Excavate for and form the front path up to entrance doorway, also the paved portion at back of houses, with tar paving 2 in. thick of macadam, slag, granite or other similar clean material broken to pass a 1 in. mesh and containing a proper proportion of fine material and hot pitch and tar well mixed together and punned into position and well rolled. Finish with ½ in. layer of similar materials to pass a ¼ in. mesh well rolled and finally sprinkled with white stone or spar chips and again rolled. The ½ in. finishing coat is to be executed just before the houses are handed over ready for occupation. The tar paving is to be laid upon 3 in. of ashes well rolled in. Provide and fix at edge of tar paving 1½ in. by 4 in. creosoted fir sawn edging, secured with 1½ in. by 1½ in. creosoted stakes 2 ft. long, pointed and driven into the ground at 4 ft. centres, or other suitable approved edging. The front path may be formed of cobbles, rough stone paving, or other suitable material.

DRAINAGE.

19. *Soil Drain-pipes.*—The pipes for soil drains are to be "British Standard Tested," and to comply with the British Standard Specification No. 65 for salt-glazed ware pipes, with socket joints and all necessary bends and junctions, laid to straight runs and to even and regular falls on a bed of Portland cement concrete (1 to 8), as described for foundations 4 in. thick, and to be benched up at each side to top of pipe with similar concrete. Pipes under building are to be surrounded with similar concrete 4 in. thick. Pipes are to be laid not less than 18 in. deep below the surface of gardens and 12 in. deep below pavings. The joints of pipes are to be caulked with gaskin and jointed in Portland cement and sand in equal proportions, and the inside of pipes is to be carefully cleaned out so as to leave a perfectly clear and unobstructed waterway.

20. *Rainwater Drains.*—The pipes for rainwater drains are to be "British Standard," and to comply with the British Standard Specification No. 65 for salt-glazed ware pipes, laid as above but without concrete.

21. *Falls.*—The soil and rainwater drains are to be laid to even and regular falls of not less than 2 in. in 10 ft.

22. *Filling.*—In filling in the trench after the drains are laid and tested, great care is to be exercised so as not to disturb the drains, and the finest and best of the excavated material is to be used for packing around the pipes. The whole is to be carefully and thoroughly consolidated and rammed, and any depressions in the finished surface over drains made up.

23. *Cleaning Eyes.*—Form cleaning eyes where required on drains with sloping length of 4 in. salt-glazed ware drainpipe carried up to surface of ground and finished with salt-glazed ware stopper bedded in cart-grease and sand in end of pipe. Surround end of pipe with cement concrete 6 in. thick, and cover the cleaning eye with 2 in. cast concrete slab, 15 in. by 15 in.

24. *Gullies.*—Provide and set where necessary to take surface water and at feet of rainwater pipes, bath and sink wastes, 4 in. salt-glaze ware trapped reversible gullies, with rebated top and 6 in. by 6 in. heavy cast-iron grating. Bed and surround the gullies with Porland cement concrete and joint to drain. Provide and fix at side of gullies taking sink waste 4 in. salt-glazed open channel 2 ft. long discharging over gully and set in cement concrete not less than 6 in. thick. Form brick or Portland cement concrete curb around all gullies (except surface water gullies), and finish in Portland cement and sand, gauged 1 and 3, with rounded top, and render the wall of house next gully with cement and sand 9 in. high. Finish with return and arris at top, and continue the curb around the open channel of gullies taking sink wastes.

25. *Manholes.*—Build manholes in the positions required by the local authority, and of 2 ft. 3 in. by 1 ft. 10½ in. minimum size, with 4½ in. brick sides to those 3 ft. deep and 9 in. brick sides to those exceeding 3 ft. deep, in cement mortar upon Portland cement concrete bottom 4 in. thick, the bottom benched up with steep falls to channels in fine Portland cement concrete, and the bottom and sides rendered water-tight in cement and sand. Provide approved cast-iron coated manhole cover and frame, 18 in. by 18 in., 24 in. by 18 in., or 24 in. by 24 in. clear opening as required, bed the frame in cement and the cover in cart grease and sand. Provide 4 in. cast Portland cement concrete surround, finished in 1 in. granolithic on top as previously described, to take cover. Provide and bed in cement in bottom of manhole salt-glazed ware half round main channel pipes, and similar three-quarter round branch channel bends. Manholes over 3 ft. deep are to have cast-iron coated step-irons built into side 18 in. apart.

26. *Intercepting Trap.*—Provide and build into side of manhole nearest the sewer an approved salt-glazed ware intercepting trap, with cleaning arm and stopper bedded in cart grease and sand, and bed trap on and surround with Portland cement concrete and connect to drain. Provide and fix galvanised-iron lever and chain to the stopper, the chain fixed to wall of manhole just under the cover with a stout staple.

27. *Ventilating Pipe and Fresh-air Inlet.*—Provide and fix at upper end of drainage system 3½ in. diameter cast-iron coated ventilating pipe, as hereafter described in "Plumber." Provide and fix in a protected position near the front manhole an approved fresh-air inlet, formed by carrying up a drain connected to manhole 6 in. above level of ground, with a bend on the end, and bed same in Portland cement concrete, benched up and rendered smooth, and fix in the end of the bend a galvanised cast-iron grating set in cement.

28. *Connections to Sewers.*—Where new roads are in course of construction, or are about to be constructed, the connection to the sewer in road is to be made before the footpaths and roadways are completed.

29. *Testing.*—No length of drain is to be covered in until it has been tested and passed. The whole of the soil drainage system is to be tested again at completion with water, smoke, or other test to the satisfaction of the local authority, and is to be well flushed out at completion of works.

FENCING.

30. *Fences and Gates.*—Construct the fences at front, back, sides and between houses with three rows of No. 8 gauge galvanised iron wire well strained and fixed through holes in concrete posts and secured to the end posts with ¼ in. diameter galvanised-iron eye bolts passing through holes in the post and with nuts and washers. The posts are to be 4 in. by 3 in. tapered reinforced concrete posts 3 ft. high above ground with the exposed surfaces perfectly clean and smooth, let into ground 18 in. deep and shaped at top. The reinforcement is to be kept ¾ in. back from the finished surfaces of posts. The end and corner posts where taking full strain of the wires are to be 4 in. by 4 in. and to have reinforced concrete struts, and the feet of posts and struts are to be set in Portland cement concrete 18 in. by 18 in. by 18 in. The entrance gates and the gates in the back fences are to be wrot iron or oak of approved simple design, with latch and heavy catch bolted to the concrete post and hung on stout wrot-iron rides with nuts and washers and passing through holes in the gateposts. The gateposts are to be 4 in. by 4 in. reinforced concrete posts, shaped at top, 4 ft. high above ground, let into the ground 2 ft. deep. The gateposts are to have sunk holes so that the nuts of bolts do not project. The feet of gateposts are to be set in Portland cement concrete 18 in. by 18 in. by 18 in. Other kinds of fencing, if of equal cost and durability, can be used in place of the foregoing.

31. *Dividing Walls at Back of Houses.*—Dividing walls at back of houses 6 ft. high and 5 ft. projection are to be put where there are no outbuildings.

BRICKLAYER.

32. *Bricks.*—The whole of the building bricks used are to be good, hard, well burnt, common bricks.

Where London stocks can be obtained, approved grizzles or place bricks may be used for party walls and internal walls carrying no weight. Approved old bricks, where available, may also be used. The bricks are to be picked square and true for faced work. No bricks are to be used for facing which will scale or waste away when exposed to frost or rain. All bricks below dampcourse in contact with earth or damp are to be carefully selected hard burnt bricks, not liable to be affected by the action of the earth or damp.

33. *Lime Mortar.*—The lime mortar is to be composed of one part of blue lias lump lime and three parts of clean, sharp river or pit sand, or one part of stone lump lime and two parts of sand, and should the lime be ground before use, the proportions are to be four and one and three and one, respectively.

34. *Cement Mortar.*—The cement mortar is to be composed of one part by measure of Portland cement to four parts by measure of clean, sharp sand, and when mixed is to be used immediately. No cement mortar that has commenced to set is to be knocked up again.

35. *Mortar Mill.*—Where a mortar mill is used, the proportion of sand shall not be less than one-third of the aggregate.

36. *Brickwork.*—The whole of the walls, piers, chimneys, &c., are to be built of the lengths, heights and thicknesses shown on the drawings, well flushed up in Portland cement or lime mortar, and the cross joints filled in solidly; the work is to be carried up to even heights all round, and no part is to rise more than scaffold height above any adjoining work. If porous bricks are made use of above the dampcourse, the external face must be finished in cement, roughcast or harled, as described in "Plasterer." No main external brick wall is to be less than 9 in. thick.

37. *Footings.*—No brick footings are to be provided to any walls.

38. *Brick Hollow Walls.*—The hollow walls are to be built of two 4½ in. brick walls with a 2 in. cavity and with galvanised iron ties, two at least for every superficial yard, and one to every 12 in. in height to the sides of all openings. The base of the wall is to be filled in solid with fine concrete up to 6 in. below level of dampcourse. Great care is to be observed to keep bottom of cavity clear of mortar droppings, and sufficient bricks, which can be removed for clearing out cavity at completion, must be laid dry at the bottom of the cavity. These bricks are then to be properly reset in cement.

39. *Concrete Slab Hollow Walls.*—The hollow walls may be built of two thicknesses of 3½ in. or 4 in. concrete slabs with a 2 in. cavity, and set in cement mortar bonded together with approved galvanised iron wall ties 3 ft. apart horizontally and every course vertically, and placed diagonally, all as described for brick hollow walls. If this method of construction be adopted, the outside leaf can be cast weathertight, or roughcast or harled, as described in "Plasterer." The concrete slabs can be composed of one part of Portland cement to six parts of fine clean clinker, free from sulphur, cast in moulds, under pressure, with slightly hollowed or grooved edges, and properly seasoned before use. The slabs are to be not more than 3 ft. long and 12 in. high. These hollow concrete walls are to be built on ordinary concrete or on brick foundations up to, at least, the level of the dampcourse.

40. *Arches.*—All arches are to be segmental or semicircular half-brick rings set in cement mortar. Brick on edge flat arches may be used to openings not exceeding 4 ft. wide with ½ in. camber.

41. *Pointing.*—All the joints of brickwork are to be well filled in, flushed up and neatly weather struck, where exposed as facings, as the work proceeds when the weather permits. The brickwork is to be either left rough or well raked out where the finishing is to be in roughcast or harled.

42. *Work in Cement.*—The half brick walls and the chimney stacks, where they rise above the levels of the roof coverings, are to be built in cement mortar. The outer casings to flues above roof are to be 4½ in. thick.

43. *Party Wall Gables.*—The party wall gables or divisions in roofs are to be 9 in. thick, stepped, and finished on top with at least 3 in. clinker concrete carefully brought up to the line of the roof slope for nailing roof coverings to without the use of battens, for protection from fire.

44. *Sundries.*—Build in as the work proceeds, or afterwards bed in lime and hair mortar and point in cement mortar around all joiner's frames for doors and windows; bed in mortar all beams, sleepers, and plates, lintels, templates, slips, stone and metal work set in the brickwork.

45. *Wire Reinforcement.*—Where half-brick walls are used to enclose coal stores provide and build in at 1 ft. 6 in. and 3 ft. above floor level approved galvanised wire mesh as reinforcement to strengthen the walls to resist the coal thrown in.

46. *Partitions.*—All division ground floor walls carrying upper floor joists are to be 4½ in. brick. Build the internal partitions where indicated on the drawings with 3 in. concrete slabs, as previously described, set in cement mortar and well pinned in and tied to the brick walls. Where a second upper storey is to be formed, 3 in. partitions may be used on the first floor, but in cases where these partitions carry the second floor joists they must come immediately over 4½ in. brick walls on the ground floor.

47. *Sleeper Walls.*—Where there are wooden joists to the ground floors, build 4½ in. honeycomb sleeper walls, and 4½ in. solid brick fender walls.

48. *Dampcourses.*—Lay on all walls, piers, chimney breasts, sleeper and fender walls, &c., a dampcourse the full thicknesses of walls formed of two courses of stout slates breaking joint, set in cement mortar gauged three and one; or an approved pure bitumen dampcourse well lapped and set upon a bed floated to receive the same may be used. Lay over the ground floor openings and openings in gables of hollow walls approved pure bitumen dampcourses turned up over the inner concrete lintels and dressed down in the hollow with a slight fall each way and 3 in. beyond the width of the opening, and taken to within ½ in. of face of external wall. Slate dampcourses are to be laid in all the chimney stacks at the point where they rise above roofs.

49. *Flues and Chimney Heads.*—Build the necessary corbelling over for the breasts and stacks, form all chimney flues of the sizes shown, which are in no case to be straight or less than 9 in. by 9 in. with as easy bends and turns as possible, and properly gather and parge the flues as the work proceeds and core at completion. The chimney stacks where so shown are to have projecting courses at their heads, and each flue is to be finished with a chimney-pot set and well flaunched up in cement mortar.

50. *Chimney Openings.*—Build in kitchen range openings 2 in. by ½ in. cambered and caulked iron chimney bars 18 ins. longer than the opening and turn one ring arches over them and at all fireplace apertures, and carefully gather in the flues immediately above the openings. Concrete lintels may be built in instead of arches or bars.

51. *Concrete Hearths.*—Where indicated on drawings prepare for a self-setting range by forming a large concrete hearth 4 ins. thick finished hard and smooth with 1 in. granolithic paving, and make a smokeproof connection to the brick flue from the iron flue pipe of the range. Form similar concrete and granolithic hearths to other fireplaces on ground floor. Concrete hearths 3 in. thick, finished with 1 in. granolithic paving are to be set generally upon fillets nailed to the upper floor joists. No timbers or plugs are to be inserted within 6 in. of any flue.

52. *Trimmer Arches.*—Where concrete hearths are not used, 4½ in. brick trimmer arches are to be turned between the timbering on proper springing fillets and filled in solidly with cement concrete to receive the 1 in. granolithic paving.

53. *Stoves, &c.*—Fix and bed solid all stoves, ranges, mantelpieces, &c., provided, and make good all round after fixing: provide and build in firebricks in all flues where exposed to flames.

54. *Mantel to Range.*—The mantel to range may be formed in cement, slate, stone or brick with wood shelf over.

55. *Rendering.*—Roughly render the faces of brickwork or walling over smoke flues passing through floors, ceilings, and in roof spaces with cement mortar.

56. *Copper.*—Provide and fix in the positions indicated on the plans independent eight to ten gallons rustless iron pans, with furnaces for gas or other fuel, with iron flue pipes and bends to connect with brick flues above.

57. *Air Bricks.*—Two 9 in. by 6 in. air bricks are to be built in the external walls for each larder and c.c. and for each w.c. and one 12 in. by 9 in. air brick is to be built in for each bedroom having no fireplace. Proper cased flues for same are to be formed through cavity walls.

58. *Ventilation Under Floors.*—Where wood floors on joists are used on the ground floor a through current of air is to be provided through every space so covered by an adequate number of 9 in. by 3 in. air bricks built in as last. Where any part of the building has a solid floor, then through ventilation is to be provided to the spaces under joisted floors by 4 in. socketed drainpipes connected to a flue and air brick built in the external wall.

59. *Sink.*—Provide and fix a Standard pattern Belfast or London sink with waste and trap in each scullery set in cement mortar on two 4 in. drainpipes solidly filled up with concrete in front and resting on two brick cobels at back.

60. *Steps.*—Set in cement all stone, brick, tile, or granolithic concrete steps; the steps in each case are to be finished 2 in. above the levels of the floors at the front door, but level with the pavings of lobbies and sculleries and in similar positions.

61. *Window Sills.*—Where window sills are adopted they may be of stone, brick, or concrete, or of two courses of plain tiles, bedded in cement and set projecting 2 in., the bottom course having a continuous nib. The tiles are to be set weathering. Stone, brick, and concrete sills are to project 2 in. and to be throated on the underside.

62. *Reveals and Sills.*—Where hollow walls are unplastered, put thick slates or other approved materials to the reveals and sills, set in cement mortar to cover wall cavities as necessary.

63. *Larder Bench.*—The bench in the larder is to be natural stone, patent stone, granolithic, or slate slabs on projecting brick courses built in cement.

64. *Fair Face to Brickwork.*—Finish the interior walls of scullery, larder, w.c., e.c., back entrance lobby, coal store, and outbuildings with a fair face and point with a neat, flat joint for lime-white or distemper.

65. *General.*—Do all necessary rough cutting, beam-filling, and everything required to complete the bricklayer's work to the satisfaction of the architect.

WALLER.

66. *Walls.*—Where stone is procurable locally and the cost compares favourably with that of brickwork, stone walling may be substituted for brickwork. The stone walling must be at least 12 in. in thickness. Build up from the concrete in trenches the external walls of the lengths, heights, and thicknesses indicated on the drawings in uncoursed rubble set in lime mortar as described for the brickwork, inserting a sufficient number of through bonding stones and large quoin stones. Where it is intended to face the walls with stone, the whole is to be built with random rubble set in lime water, and the joints struck as the work proceeds when the weather permits. Carefully dress the quoins to all the apertures and at the salient angles. Form arches, or finish the heads over the apertures with squared stones as indicated on the plans. Build in cement all the chimney heads up from just below the roof with coursed rubble, having dressed stones and oversailing courses as shown, and point as above described. The external faces of stone walls may be roughcast or harled as described in "Plasterer." The dampcourses will be as described for those in the brick walls, and the specification for bricklayer's work will generally apply to the waller's work.

TILER.

67. *Tiles.*—Tiles should not be used for roofs with a pitch of less than 45 degs. The tiles are to be hard, well and evenly burnt sand-faced tiles of an approved make and colour, made with nibs and laid on to a 4 in. gauge, but not less than a 2 in. lap throughout. The tiles are to be laid on 1½ in. by 1 in. sawn battens, and every fifth course is to be nailed with two 2 in. stout composition nails to each tile. The two courses next to all eaves, gables, hips and ridges are to be nailed each course. Where no fascia or soffit boards are provided the tiles are to be nailed to 1 in. rough boarding between the eaves and wallplate. All tiling may be pointed or torched on the underside in the manner customary in the district.

68. *Verges.*—The verges are to be formed with tile and a half tiles, with a tile undercloak, pointed in cement, exposing the ends of the tiles.

69. *Eaves.*—Put a double course of tiles at all eaves, bedded in cement mortar.

70. *Ridges.*—Cover the ridges with half-round or other approved section ridge tiles bedded down solidly in hair mortar and pointed in cement mortar, and gradually tilt them up towards the gable ends. Fill in open ends with plain tiles in cement.

71. *Hips and Valleys.*—The hips and valleys are to be formed with proper hip and valley tiles coursed and bonded with the ordinary tiling and nailed at every course. The hip tiles are to be bedded in hair mortar and pointed in cement mortar.

72. *Soakers.*—Fix the lead soakers provided by the plumber.

73. *General.*—Make good all damage done to the tiling, and at completion leave all roofs sound and watertight, and clean out eaves, gutters and downpipes. N.B.—Bridgewater, Roman or pantiles may be used where customary, and the specification varied accordingly.

SLATER.

74. *Slates.*—Slates should not be used for roofs with a pitch of less than 30 deg. The slating is to be of outsizes of good quality Welsh or local slates free from defects, laid with a lap of not less than 3 in. throughout, each slate being fixed with two 2 in. stout composition nails to 2 in. by 1 in. battens. Where no fascia or soffit boards are provided, the slates are to be nailed to 1 in. rough boarding between the eaves and wall plate. All slating may be pointed or torched on the underside in the manner customary in the district.

75. *Verges.*—Trim and point the verges in cement and fix an extra course of slates under verges.

76. *Eaves.*—Put a double course of slates at all eaves, bedded in cement mortar.

77. *Ridges and Hips.*—Cover the ridges and hips with half-round or other approved section blue tiles bedded down solidly in hair mortar and pointed in cement mortar. Fill in open ends with plain tiles in cement.

78. *Soakers.*—Fix the lead soakers provided by the plumber.

79. *General.*—Make good all damage done to the slating, and at completion leave all roofs sound and watertight and clean out eaves gutters and downpipes.

CARPENTER AND JOINER.

80. *Thicknesses.*—The thicknesses of all joinery specified are before planing, and one-sixteenth inch will be allowed for each wrought face from all specified thicknesses.

81. *Storing Joinery.*—All joinery immediately after delivery at the site is to be stored and protected from the weather. The floor boards are to be stacked on the site face downwards within a month of commencement of the work, and to be protected from the weather at least one month before use.

82. *Painting Joinery Previous to Fixing.*—All joinery specified to be painted is to be knotted and primed before leaving the joiner's shop. The bottom edges of all doors are to be primed and painted one coat just previous to hanging. The backs of all window frames and back linings and the backs of external door frames are to be coated with one coat of creosote or other approved material. (See also "Painter.")

83. *Materials for Carcassing.*—The timber used is to be sound redwood or white wood of suitable building quality, and not inferior to good fourth Swedish classification; or equal quality in Finnish or Russian production, spruce, red pine, pitch pine, Oregon pine or British Columbia pine. All to be reasonably seasoned. Wrack and dead wood will not be permitted.

84. *Home-grown Timber for Carcassing.*—Oak, chestnut, larch, spruce, or Scotch fir may be used for carcassing, if of an approved quality and growth and felled during the winter months. All to be reasonably seasoned. Wrack and dead wood will not be permitted. The scantlings are to be similar to those specified for imported timber, except in the case of oak and chestnut, when the scantlings can be reduced 1 in. in depth. Oak or chestnut beams may be used to support the first-floor joists, which may then be of the scantlings suited to the reduced span.

85. *Materials for Joinery.*—The timber used is to be sound redwood or whitewood of suitable joinery quality, and not inferior to good third Swedish or White Sea classification, or equal quality in Finish or Russian production, red pitch pine, Oregon pine or

British Columbia pine. All may be used for both external and internal work, with the exception of whitewood and yellow pine, which may only be used for internal work. All the wood must be seasoned and dry. Wrack and dead wood will not be permitted.

86. *Timber Generally.*—All timber is to be cut square free from excess of wane or discoloured sapwood. N.B.—These description of materials for carcassing joinery will only apply during the period of scarcity of timber. As the supplies improve, fresh descriptions will be issued.

87. *Sills.*—The oak or chestnut used for sills is to be free from sapwood, dead knots, or other defects, and to be well seasoned and dry.

88. *Framed Work.*—All doors and other framed work are to be put together immediately upon the general work being commenced, but not to be glued and wedged up until the joinery is prepared in readiness for immediate fixing. All framing is to be put together with well-fitting mortise and tenon joints wedged up solid.

89. *Ground Joists and Sleepers.*—Where there are not solid lower floors there are to be ground joists on 4 in. by 1½ in. fir sleepers about 6 ft. apart, which are to be bedded down upon the honeycomb 4½ in. brick sleeper and fender walls and kept 1 in. clear of all external walls; these sleepers are to be coated with one coat of creosote all round before bedding.

90. *Floor Joists.*—Construct the wood floors with joists of the following scantlings or with joists of equal area and suitable depths :—

Depth in inches when the breadth of joists is :—

Length of the bearing not exceeding	2 in.	2½ in.	3 in.
5 ft. ..	4 in.	—	—
6 ft. ..	4½ in.	4 in.	—
8 ft. ..	5½ in.	5 in.	4½ in.
9 ft. ..	6 in.	5½ in.	5 in.
10 ft. ..	6½ in.	6 in.	6 in.
11 ft. ..	7 in.	7 in.	6 in.
12 ft. ..	8 in.	7 in.	7 in.

The upper floor joists are to bear direct on the brick walls without wall plates. The ends of the joists are to be bedded up level and carefully brick-filled between the ends. All floor joists are to be fixed at spacings not exceeding 14 in. apart, and each joist is to have a full wall bearing at each end. The trimmers and the trimming joists are to be ½ in. thicker than the other joists. All the floor timbering is to be properly trimmed and tusk tenoned. Filleting is to be put around the hearth trimmings for receiving brick or concrete hearths.

91. *Cross Strutting.*—Put one row of 1½ in. by 1½ in. sawn herring bone strutting to all bedroom floors where the bearing of the joists exceeds 8 ft. Solid strutting will be permitted.

92. *Flooring.*—Lay the wood floors with 1 in. straight joint or ploughed and tongued (according to local custom) floor boards of varying widths, thoroughly seasoned, well jointed and securely fixed to each joist with two 2½ in. brads well punched down. All the flooring is to be well cleaned off and protected. Put properly mitred margins around all the hearths.

93. *Suspended Concrete Floors and Floor Finishings.*—Suspended concrete floors may be used to the upper floors, formed of hollow blocks with reinforced concrete between or with reinforced beams and reinforced cast concrete slabs of the necessary strength to suit the bearings, or other approved form of construction. Details must be given of the form of construction intended. The finishing to the ground floors of parlours and living rooms and to the first floors where suspended concrete floors are utilised may be formed with approved composition flooring or screeded with 1 in. thickness of Portland cement and sand (gauged 1 and 3), finished perfectly smooth and hard with a steel trowel. These finishings are not to be executed until just before the houses are completed. The composition flooring is to be polished with wax or other approved preparation.

94. *Ceiling Joists.*—The ceiling joists are to be 2 in. in thickness, spaced not exceeding 14 in. apart, not less than 4 in. or more than 5 in. deep, trimmed properly around trap doors and stacks, with stiffeners 5 in. by 1 in. and hangers 3 in. by 1½ in. wherever required fixed to purlins and rafters.

95. *Roofs.*—Construct the whole of the roofs with timbers of the following scantlings or of equal area and suitable depths :—

Rafters spaced not exceeding 14 in. apart.

Length of bearings not exceeding—	Dimensions.
5 ft.	3 in. by 2 in.
6 ft.	3½ in. by 2 in.
7 ft.	4 in. by 2 in.
8 ft.	4½ in. by 2 in. or 4 in. by 2½ in.
9 ft.	5 in. by 2 in. or 4½ in. by 2½ in.

Hips and valleys are to be 9 in. by 2 in. or 11 in. by 1½ in. and ridges 7 in. by 1½ in. Put 1 in. boarding t valleys in slated roofs. The roofs are to be stiffened with the necessary collars and struts to carry 5 in. by 3 in. purlins at intervals of about 6 ft. The rafters are to be notched and spiked to the wall plates, purlins, and ridges. The ceiling joists are to be spiked to the rafters and ceiling beams.

96. *Fascias.*—A wrought fascia board 5 in. by 1 in. may be used spiked to the feet of the rafters to serve as a tilt for the tiling or slating with ¾ in. soffit boarding on suitable bearers; or the brackets to eaves gutters may be screwed to the sides of the projecting rafters. Where no soffit boarding is intended, the battens on backs of projecting rafters are to be omitted and 1 in. boarding is to be fixed instead. The feet of rafters and soffit of roof boarding where projecting are to be treated with one coat of approved wood preserving stain as described in "Painter."

97. *Projecting Eaves.*—Eaves should not project more than 12 in. beyond the face of the wall.

98. *Wood Fixing Slips, &c.*—Deal fixing slips are to be built in dry in the joints of brickwork or walling, or otherwise coke breeze bricks are to be built in for fixing joinery.

99. *Skirtings.*—Put 3½ in. by ¾ in. chamfered skirtings plugged to walls over all wood or composition flooring. 1½ in. by 1½ in. quadrant skirting fillet may be used in place of the above skirting.

100. *Chair Rails.*—Put to living rooms a 3½ in. by ¾ in. chamfered chair rail plugged to wall at a height of 2 ft. 6 in. from floor to bottom of rail.

101. *Picture Rails.*—Put around the living rooms, parlours, and bed rooms a picture rail 1 in. by 1½ in. plugged to walls. As an alternative picture rail, a light steel tube with sleeve brackets, finished black, pinned into walls and carried across window as curtain rod, may be used.

102. *Cloak Rails.*—Cloak rails 6 ft. long 1 in. by 4 in. plugged to walls are to be fixed where indicated, and six hat and coat hooks are to be screwed thereon.

103. *Air Grids.*—Provide and fix in the larder fly-proof perforated zinc cover over the air brick fixed to small wood beading. Where air bricks are provided to bedrooms, they are to be fitted with wooden hoppers.

104. *Windows.*—All windows should be fixed close to the external wall face.

105. *Double Hung Sashes and Frames.*—The sash frames for double-hung sashes are to have 7 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, 4½ in. by 1 in. deal pulley stiles and heads, 4½ in. by 1 in. outer linings, extended where there are arches over, 3 in. by ¾ in. inner linings, 1 in. by ¾ in. inside beads, 5 in. by ½ in. back linings, 1½ in. by ½ in. parting slips, 1 in. by ½ in. parting beads, and 2½ in. by 1 in. draught boards. The sashes are to have 1¾ in. by 3½ in. bottom rails, 1¾ in. by 2 in. top rails and stiles, 2½ in. by 1½ in. meeting rails, and 1¾ in. by 1¼ in. square, chamfered, or moulded bars. The sashes are to be hung on stout cords with iron weights, and to have 1¾ in. brass-faced axle pulleys.

106. *Casements.*—The casement frames are to have 6 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, and 4 in. by 2 in. deal frames and mullions, with ¾ in. rounded stops planted on and mitred, with casements fixed or hung therein, having 2 in. by 1¾ in. top rails and stiles, 3 in. by 1¾ in. bottom rails, and 1¾ in. by 1¼ in. squared, chamfered, or moulded bars.

107. *Yorkshire Windows.*—Yorkshire windows are to have 6 in. by 3 in. weathered and checked oak or chestnut sills, throated on underside, 4 in. by 2 in. deal frame with ¾ in. parting bead, ¾ in. sash beads, and ¾ in. by ½ in. hardwood rounded runner let into sill, with sashes similar to last, some of the sashes being fitted to slide. Fit each sliding sash with 3 in. japanned iron cabin hook on plate and two eyes.

108. *Skylights.*—Where no windows are provided to staircases, supply and fix a standard pattern cast iron ventilating glazed skylight fixed on the battening before the roof covering is put on. Trim and form opening rafters and in ceiling joists and form well-hole with 3 in. by 2 in. timbers from ceiling joists up to soffit of rafters and line with lath and plaster or fibrous slab as described in "Plasterer."

109. *Steel Windows.*—Where these are made use of they are to be as specified in "Founder and Smith," set solidly and pointed up in cement as the work proceeds.

110. *Cover Fillets.*—Put 1 in. by 1 in. quadrant rounded or moulded cover fillets internally and externally around windows after the plastering is completed and before finishing coat of roughcast or harling is applied.

111. *Window Boards.*—The windows are to have 1 in. deal rounded window boards tongued to oak sill, or the sills can be finished with red quarry tiles set and pointed in cement mortar.

112. *Doors Generally.*—The doors are to be of a uniform height, and all doors giving access to rooms and cupboards are to be 2 ft. 8 in. wide, the doors to w.c.'s, e.c.'s, larders, coal stores, and outbuildings are to be 2 ft. wide.

113. *Front Doors.*—The front doors are to be 1¾ in. thick, with 4½ in. top rails and stiles, 9 in. lock and bottom rails, 1½ in. lower panels, bead and butt flush on the outside, 1¾ in. by 1½ in. squared, chamfered or moulded glazing bars in the upper panel, and ¼ in. ovolo moulded glazing beads. Screw on 1½ in. by 3 in. shaped weather fillet let into the bottom rail of door, the full width of door, the frame to be notched for same, and the ends of the weather fillet slightly splayed. These doors are to be hung with three 4 in. butts to 4½ in. by 3 in. rebated and moulded frames, the heads having 4 in. horns for building into the walls.

114. *Back Doors.*—The back doors are to be 1¾ in. framed and ledged doors, having 4 in. by 1¾ in. or 4½ in. by 1¾ in. stiles, 9 in. by 1 in. or 8 in. by 1 in. middle and bottom rails, and 1 in. tongued grooved and V-jointed boarding, in widths not exceeding 5 in., each hung with three 4 in. butt hinges to 4½ in. by 3 in. rebated and moulded frames, the heads having 4 in. horns for building into the walls.

115. *Internal Doors.*—The internal doors are to be 1½ in. four-panel square doors, with 9 in. by 1½ in. or 8 in. by 1½ in. lock and bottom rails, 4½ in. by 1½ in. or 4 in. by 1½ in. top rails muntins and stiles, and ¾ in. panels, hung with pair of 3 in. butts to 6 in. by 1½ in. lining, with 3 in. by ½ in. stops for 4½ in. walls, or 4 in. by 1½ in. frames with 2 in. by ½ in. stops for 3 in. slab concrete partitions. The frames are to be grooved ½ in. deep at back to receive edge of concrete partitions, and they are to be carried up and securely fixed to the ceiling joists at top and to the floors at feet.

116. *Ledged and Braced Doors.*—The coal store and w.c. or e.c. are to have 1 in. ledged and braced doors, with 7 in. by 1½ in. ledges, 4½ in. by 1½ in. braces, 1 in. tongued groove and V-jointed boarding, and hung with 14 in. Tee hinges to 4 in. by 2 in. frames with ¾ in. rounded stops planted on.

117. *Iron Dowels.*—Put ¾ in. wrought iron dowels 4 in. long between feet of frames of external doors and thresholds under same. The dowels are to be galvanised after being cut to lengths.

118. *Fanlights.*—Provide and fix over internal doors wherever required 1½ in. moulded fixed fanlight and glaze same with 15 oz. sheet glass, the linings and frames of doors being carried up to receive same.

119. *Architraves.*—Provide and fix around doorways ¾ in. by 2½ in. moulded, rounded or chamfered fillet as architraves.

120. *Dressers.*—In districts where dressers are usually provided in living rooms, they are to be constructed with 1½ in. table top 18 in. wide, and the part below same enclosed and fitted with 1½ in. square doors hung with pair of 2 in. butts and fitted with iron butterfly turnbuckle and staple, 1 in. pot board and bearers, and 1 in. shelf in enclosed portion with drawers 7 in. high having 1 in. beaded front and ¾ in. rims dovetailed together, and ¾ in. bottom on proper runners, the part above table top to have two 1½ in. diminshed standards, three 1 in. grooved shelves with fillet at back plugged to wall as bearer the full length of shelves, and 1 in. top with 1 in. by 1½ in. cornice. Provide and fix to each drawer two plain blacked iron handles, and to shelves two dozen brass cup and jug hooks. Where it is usual for tenants to provide their own dressers, a suitable place or recess is to be formed to receive them.

121. *Staircase.*—Construct the staircase with 1½ in. treads, with rounded nosing, and 1 in. risers, tongued in both edges and glued, blocked, and bracketted on stout fir carriages, 1½ in. square wall strings and 1½ in. outer strings framed to 3 in. newels with shaped or turned top. The staircases enclosed between walls are to have 2 in. by 1½ in. hollowed wall handrail screwed to plugs in wall, and staircases open on one side are to have 3 in. by 2 in. American whitewood oval hand-rail fixed to 1 in. deal square balusters spaced two per step. Where stairs are open on one side, enclose the space under same with ¾ in. matched and V-jointed boarding nailed to fir bearers to form cupboard and form a ledged door hung with pair of 8 in. wrot iron strap hinges to 3 in. by 2 in. deal frame and fitted with straight cupboard lock.

122. *Cupboards.*—The cupboards are to be formed in 3 in. concrete slabs, with the partitions carried up to the ceiling with 1½ in. doors and frames as previously described for internal doors, except that the doors are fitted with 1½ in. iron button on plate and 1½ in. iron knob. Provide and fix 5 ft. above floor one ¾ in. shelf on chamfered bearers and ¾ in by 5 in. chamfered hat rail under shelf with japanned malleable iron wardrobe hooks spaced 9 in. apart.

123. *Linen Cupboard.*—The linen cupboard is to be formed as last described and fitted with three tiers of slat shelving of ¾ in. by 2 in. slats spaced 1½ in. apart on chamfered bearers.

124. *Shelving.*—Provide and fix above the slate or stone shelving in larder three tiers of 1 in. deal shelving, one 11 in. and two 9 in. wide, on chamfered bearers. Provide and fix 50 ft. run of 1 in. by 9 in. shelving in suitable positions upon deal gallows brackets, or stamped steel brackets, and 30 ft. of pin rails.

125. *Coal Boards.*—Provide for coal store four 1 in. by 9 in. coal boards 3 ft. high to slide in rebated runners nailed to door frame.

126. *Draining Board.*—Provide and fix at side of sink 1 in. beech or sycamore, ledged and grooved, draining board, with ¾ in. by 3 in. skirting next walls, fixed on deal bearers and gallows brackets where required.

127. *Trap Door.*—Provide in ceiling over staircase a 1 in. deal ledged trap door 2 ft. by 2 ft. for access to roof, with 1 in. beaded lining around. The lining is to be ½ in. deeper on two opposite sides, so as to keep the trap door ½ in. up for ventilation; the trap door to be secured with two bolts.

128. *Clothes Posts.*—Provide two 4 in. by 3 in. wrot clothes posts 10 ft. long each with two turned hardwood or iron pins at top. Set the feet of posts into the ground 2 ft. 6 in. deep, and nail on 1 in. rough bases 9 in. high mitred around between earth and air, and once creosote same before fixing.

129. *General.*—Provide and fix all blocks, plugs, &c., required, and do everything necessary to complete the carpenters' and joinery work to the satisfaction of the architect.

IRONMONGERY.

130. *General.*—The ironmongery generally is to be of the approved standard patterns. All brass fittings are to be fixed with brass screws. All butts are to be best quality pressed steel butts. The keys of all locks and night latches to external doors are to differ for each cottage.

PLASTERER.

131.—*Lime.*—The lime for plastering is to be well burnt stone or chalk lime, and it is to be run into putty at least one month before use.

132. *Sand.*—The sand for plastering is to be clean, sharp, river or pit sand, free from earth, loam or saline materials, and well screened.

133. *Hair.*—The coarse stuff throughout is to have 9 lb. of good long hair, free from grease or other impurities, well beaten up and mixed with every cube yard of the coarse stuff. If mill-ground coarse stuff is made use of, the hair is to be added after grinding.

134. *Laths.*—The laths are to be rent of single lath or sawn lath and half strength; each lath is to be properly secured with 1 in. wire nails to each ceiling joist, butt-jointed, and to break joint every 3 ft.

135. *Cement.*—The Portland cement is to be as previously described.

136. *Proportions of Materials.*—For the coarse stuff one part of lime is to be well mixed with three parts of sand by measure, and in this is to be incorporated 9 lb. of hair with every cube yard. For the setting coat not

less than one part of lime putty is to be well mixed with one part of clean sand.

137. *Ceilings and Soffits.*—Lath and plaster with two coats the whole of the ceilings, sloping ceilings, and the soffits of the staircases wherever they are exposed. Fibrous plaster seasoned slabs ⅜ in. thick cast with a rough surface for plastering, fixed with 1½ in. composition nails 4 in. centres, and finished with a setting coat may be used in place of last.

138. *Float and Set.*—Float and set the whole of the interior walls and partitions, excepting in scullery, larder, coal store, w.c., e.c., back entrance lobby, and outbuildings. If fair face cannot be produced with the bricks available, the walls of scullery and larder are to be plastered in Portland cement and sand gauged one to three to a height of 4 ft. 6 in. above floor as dado finished with splayed top edge. In all cases the plastering on walls and partitions is to be continued down to the floor levels.

139. *Salient Angles.*—The external angles throughout the plastered walls are to be slightly rounded, and the first coat of plastering thereon is to be gauged with cement.

140. *Cement Skirting to Sink.*—Put Portland cement skirting to sink where it abuts against walls up to the window sill, or otherwise 9 in. high, trowelled to a smooth and impervious face; or glazed tile skirting may be used.

141. *Covering Cavities.*—Where hollow walls are plastered, put rough pieces of slate or tile to the reveals and sills set in cement to cover wall cavities as necessary.

142. *Roughcast, &c.*—Where indicated on drawings float in cement and sand on to three not less than ½ in. thick, well score the same and finish with a cement face roughcast or harled.

143. *General.*—Make good after all other trades and leave the plasterer's work perfect on completion.

FOUNDER AND SMITH.

144. *Eaves Gutters.*—The eaves gutters are to be cast iron beaded, half-round standard pattern, the joints made in red lead and bolted, fixed on standard galvanised wrought iron or galvanised stamped steel brackets, two to each 6 ft. length of gutter, with spiked ends for driving into the concrete eaves course, or screwed to the feet of the rafters, sprocket pieces or fascias. Provide all requisite cast angles, stopped ends, and outlets with nozzles.

145. *Fall Pipes.*—All the fall pipes are to be cast iron standard-pattern piping with projecting ears to keep pipes 1 in. clear of the walls, fitted with all necessary swan-necks, shoes and heads, and fixed with 3 in. rose-headed nails.

146. *Steel Casements.*—Where steel windows are intended to be used, they must be of approved standard pattern with lugs bolted on for building into walls.

147. *Stoves and Ranges.*—The stoves are to be generally of the mantel register type selected from standard patterns. The ranges are to be of standard patterns.

148. *Dustbin.*—Provide and place in position a standard galvanised-iron sanitary dustbin 18 in. diameter and 24 in. high, complete with cover.

PLUMBER.

149. *Materials and Workmanship.*—All the lead used is to be the best milled lead, and of the full weight specified. The running joints in lead pipes and the joints to fittings are to be wiped soldered joints.

150. *Chimney Aprons.*—The aprons of the lower sides of the chimney stacks are to be 4 lb. let ¾ in. into the joints of the brickwork or walling, to be brought not less than 3 in. down the chimney side, and to lie 6 in. on the tiles or slates, secured with lead wedges and pointed in cement, well worked round the returns of the stacks, and there covered with the over flashings.

151. *Gutters.*—Lay the gutters behind chimney stacks (where required) with 5 lb. lead turned up 4 in. against brickwork and 8 in. under slates or tiles, and not less than 6 in. wide on sole at narrowest part.

152. *Soakers.*—In all cases where the raking line of tiling or slating meets brickwork or walling, 3 lb. lead soakers are to be fixed one to each slate or tile, turned up 3 in. against the walls and lying 5 in. on the slating or tiling, and to be 3 in. in addition to the full gauge of the tiles or slates.

153. *Flashings and Valleys.*—The lead soakers are to be covered with 4 lb. lead stepped flashings 8 in. wide, turned ¾ in. into the joints of the brickwork or walling secured with lead wedges, and pointed in cement. The straight flashings are to be similar, but 6 in. wide. Lay the valleys in slated roofs with 4 lb. lead 15 in. girth.

154. *Water Service.*—Lay on water service to house in accordance with the local regulations with either lead pipe or galvanised wrought iron steam tubing as required, and connect with the public water main. Provide a screw-down stop-cock fixed inside each house, easy of access, where the main supply enters the house, and one on the down service just under the cistern.

155. *Cistern.*—Carry a ¾ in. rising main up to a 40-gallon standard galvanised iron cistern fixed on sufficient bearers, and take ¾ in. branch pipes from the rising main direct to the sink, bath, copper, lavatory basin, and water waste preventor.

156. *Ball-cock.*—Provide and fix ball-cock over cistern.

157. *Warning Pipe.*—Provide and fix an iron or lead warning pipe connected to cistern, of sufficient size, discharging in an exposed position outside with copper hinged flap on end.

158. *Wastes.*—From the sink and lavatory basin take 1½ in. and from the bath take 1½ in. iron waste pipes to the open, connected to the traps of the fittings and discharging over gullies or hopper heads.

159. *Rainwater Butts.*—Wherever rainwater butts are shown on the plans they are to be 40 gallon petroleum casks, well burnt out, and twice tarred externally, fitted with a 1 in. deal ledged cover twice tarred, perforated for the inlets. A 1½ in. iron overflow is to be fixed to the cask connected by an elbow with screwed and jointed washers to the barrel to discharge over an adjacent gully or otherwise carried to a point at least ten feet away from the building where a soakaway is to be made one yard cube in all.

160. *Soil Pipes.*—All the soil and ventilating pipes are to be 3½ in. cast-iron standard pattern dipped in Dr. Angus Smith's solution, with projecting ears fixed with 3 in. rose-headed nails, the joints caulked and run with blue lead or caulked with lead wool. The branch soil pipes and junctions are to be of standard pattern. The ventilating pipes are to be carried up 2 ft. above the roof or the top of the nearest dormer window, through the eaves of roof where these occur, flashed with a 5 lb. lead tile or slate soldered to the iron pipes tinned for the purpose, and terminated with a copper-wire balloon grating. The trap of w.c. is to be connected to the socket of the branch pipe and caulked with gaskin and jointed in red lead. The feet of soil and ventilating pipes are to be connected direct to the salt-glazed ware bend and caulked with gaskin and jointed in Portland cement and sand gauged 1 to 3.

161. *Bath and Lavatory Wastes.*—The external wastes to the bath and lavatory basin on the first floor are to be 2 in. cast-iron standard pattern, all as described for soil and ventilating pipes, but jointed in red lead and tow, with hopper heads to receive the discharge pipes at the top and shoe at bottom to discharge over gully.

162. *W.C. or E.C.*—The w.c. is to be a stoneware pedestal closet with water-waste preventor with 1½ in. galvanised steel flush-pipe and 1½ in. plain hardwood seat, unpolished, in one thickness all to approved pattern. The flush-pipe is to be jointed watertight to the flushing arm of the w.c. Put ½ in. wrought-iron overflow to the water waste preventor carried through the external wall with a projection of 6 ins. The e.c. is to have a strong galvanised iron sanitary pail with handles, and is to be fitted with 1½ in. seat with properly dished hole on 5 in. by 1½ in. bearers.

163. *Washing Copper.*—Washing copper, see "Bricklayer." Provide and fix over copper ½ in. bib cock.

164. *Sink.*—Sink, see "Bricklayer." Provide and fix over sink two ½ in. bib cocks marked "Hot" and "Cold" respectively.

165. *Lavatory Basin.*—The lavatory basin is to be glazed stoneware with overflow, brass waste, plug, and chain, and hot and cold taps, and iron trap, and is to be fixed on brackets or bearers, the whole to standard pattern.

166. *Bath.*—The bath is to be cast-iron greenstone vitreous enamelled set on feet, with brass waste, plug, and chain, hot and cold taps, and iron trap, all to standard pattern.

167. *Cocks.*—The bib, stop and ball cocks are all to be brass of approved pattern.

168. *Testing.*—Test the whole of the internal plumber's work, water supply and fittings, and leave in perfect working order at completion.

HOT-WATER FITTER.

169. *Pipes.*—The pipes are to be wrot iron welded steam tubing as previously specified for water supply except in districts where lead or copper pipes are necessary, when they are to be as hereafter specified.

170. *System.*—The hot water supply may be provided by means of either the tank or the cylinder system, or where the bath is on the ground floor and not far from the boiler, an approved "Gravitation" system. N.B.—In each case the system proposed to be adopted must be specified and comply with the following requirements:—From the cold water cistern take a ¾ in. galvanised steam barrel supply to the hot water apparatus, with a screw-down stop-cock in same just under cistern. The tanks or cylinders are to be 14 gauge tested galvanised wrot iron of 30 gallon capacity, with bolted manhole in same and with flanged connections for pipes. The flow and return pipes are to be not less than 1 in. diameter, and in districts where the water is hard the flow and return pipes are to be not less than 2 in. diameter for 6 ft. above boiler. From the flow pipe near the boiler take a branch to a convenient position and fix thereon a dead-weight safety valve. Take ¾ in. branch to the bath and ½ in. branches to sink and lavatory basin. Provide ¾ in. expansion pipe delivering over the cold water cistern. Form draw-off at lowest point in system with ½ in. tubing properly connected to same, and provide and fix bib cock to empty system.

171. *Lead or Copper Pipes, and Copper Boiler and Cylinder.*—In districts where iron pipes, boilers, and cylinders are not serviceable, the pipes are to be in lead or copper, and the boot boilers at back of the range and the cylinders are to be of copper. The lead pipes are to weigh as follows:—½ in. diameter, 6 lb. per yard; ¾ in. diameter, 9 lb. per yard; 1 in. diameter, 12 lb. per yard; 1½ in. diameter, 18 lb. per yard. The copper pipes are to be of No. 10 gauge. The copper boot boilers to be 3-16 in. plate to hold 3 gallons, with bosses brazed on and tapped for connections to pipes. The cylinders are to have No. 22 gauge copper body and top, and No. 18 gauge bottom with bosses brazed on and tapped for connections to pipes.

172. *Testing.*—Test the whole of the hot water service and leave in perfect working order at completion.

GAS OR ELECTRIC LIGHT SUPPLY.

173. *General.*—Arrange with the local gas or electric light supply undertakers for the gas lighting and cooking or electric light installation complete.

GLAZIER.

174. *General.*—The windows are to be glazed with seconds 15 oz. sheet glass except where the squares exceed 1 ft. 6 in. superficial area, in which case 21 oz. sheet glass is to be used, well-bedded, sprigged, and puttied. Front door and w.c. and ground floor bathroom windows are to be glazed with approved obscured glass. All glazing rebates are to be primed. All putties are to be painted two coats.

PAINTER.

175. *Paint.*—The paint is to be obtained from an approved manufacturer, supplied ready mixed for use, of approved plain tints. The paint is to be used as sent by the manufacturer, and each coat is to be of a distinctive colour. The paintwork is to be well rubbed down before the last coat is applied.

176. *Ironwork.*—The ironwork is to be cleaned entirely free from rust and to be painted one coat of oxide of iron paint just previous to fixing and two coats of oil colour after fixing. Eaves gutters are to be painted inside and out. Coated soil, vent, and waste pipes are to be once knotted and painted two coats. All iron pipes inside houses not galvanised are to be painted one coat of oxide of iron paint before fixing and one coat of oil colour after fixing, and where exposed distempered or whitened with the walls and ceilings.

177. *Blacking.*—Clean and once black all stoves, range, copper and flue pipe from same, where not galvanised, and clean and polish the bright portions of range.

178. *Internal Woodwork.*—The whole of the internal woodwork usually painted is to be finished in one of the following methods:—(*a*) Treated with one coat of approved wood preserving stain to approved tints. (*b*) The inside of windows and window boards is to be painted three coats of oil colour, as described for external woodwork, and the remaining work treated with one coat of approved wood-preserving stain to approved tints.

179. *External Woodwork.*—The whole of the external woodwork is to be carefully knotted with patent knotting and primed before leaving the joiner's shop, and after fixing stopped with hard stopping and painted three coats of oil colour, including the putties of glazing, except where otherwise described. The feet of rafters and soffit of roof boarding where projecting are to be treated with one coat of wood-preserving stain.

180. *Backs of Window and Door Frames.*—The backs of all window frames and back linings and the backs of external door frames are to be coated with one coat of creosote or other approved material.

181. *Glazing Rebates.*—All glazing rebates are to be primed.

182. *Whitening and Distemper.*—Clear-cole and once whiten all ceilings; also all friezes above picture rails. All wall surfaces, except in coal store, are to be clear-coled and once distempered with washable distemper of approved tints. The coal store is to be twice lime whited. Any cracks, blisters, or other imperfections in the plaster work are to be cut out, carefully stopped, and made good before any distempering is put in hand.

183. *General.*—Clean down the external faces of buildings, wash off stains, clear off marks of mortar and cement, clean windows inside and outside, scrub pavings and floors, clear away rubbish and waste materials, and leave all parts of the premises clean and perfect at the completion of the work.

PATENTS.

APPLICATIONS PUBLISHED.*

130,392.—E. Letord: Strengthening and squaring plates applicable to frameworks of aerial navigation machines.

130,417.—R. Caudron: Tanks or reservoirs particularly for use in aeroplanes and airships.

130,436.—Sir R. A. Hadfield: Remelting of manganese steel scrap.

130,439.—A. W. Storey: Metallic reinforcements for concrete structures, such as beams, columns, piles, posts, walls, floors, roads, ship sides and decks, concrete sleepers, planks and slabs.

130,443.—H. Hewins: Feed water supply fittings for steam boilers.

130,453.—W. H. Tibbals and Endfire Extinguisher Co.: Fire extinguisher.

130,458.—F. Weltert: Controlling devices for heating and ventilating plants.

130,468.—Stirling Boiler Co. and H. J. S. Mackay: Water-tube boilers.

130,500.—H. Morris, Ltd., G. A. Robertson and W. N. Weston: Electrically operated pulley blocks and hoists.

130,509.—J. Reid: Furnace fronts and adapter rings therefor.

130,512.—A. Deane-Butcher (A. D. Deane-Butcher): Construction of pipes and culverts.

130,526.—E. A. A. Barrs: Air diffusers and regulators for ventilation.

*All these Applications are now in the stage in which opposition to the grant of Patents upon them may be made.

THE BUILDING TRADE.

CRITICISM AND SUGGESTION.

WE have received the following from Mr. H. A. Bartlett, a director of Messrs. Perry & Co. (Bow), Ltd. :—"I am surprised to read in your issue of August 22, the abstract of the Interim Report of the Committee on Scientific Management and Reduction of Costs of the Industrial Council for the Building Industry. The proposals may be criticised from any of the four principal points of view: The general public point of view—viz., reduction of cost and increase in production; the employer's point of view; and the employees' point of view; but I cannot see that it can be commended as a whole from any point of view. The report certainly contains a summary of proposals (none of them new) for improvements in certain directions, and I think that with these as a basis a better system than the present might be evolved. After a careful perusal of the report, one is forced to the conclusion that bureaucracy overwhelmed the individualism of the three classes concerned, viz., the building owner, the builder, and the workman. This is perhaps hardly to be wondered at after five years of Government control, but it is at the same time disquieting to think that independence and individuality could make so poor a showing, for without these no progress can be hoped for.

"Now let us consider the report in sections in the order in which they are placed in the report.

"*The Regularisation of Demand.*—Here we have a bureaucratic proposal pure and simple, which would be quite impossible to put into practice. It is contrary to one of the cardinal laws of political economy, that is, the law of supply and demand. The effect would be that the Committee would say to the public, 'We have no work for the builders in this district, so you must have some work done; or, on the other hand, 'The builders in this district have as much work as they can comfortably undertake, so we are sorry you must postpone your building operations for a year or two.' The necessity for building depends so intimately upon conditions in other trades that it cannot be regulated to any great extent. Under the system of competitive tendering, as much regulation as possible was obtained, due to the fact that if builders were busy they put their prices up so that the public was discouraged from building except in cases of necessity, and, on the other hand, if the builders were slack, their prices dropped in sympathy, giving encouragement to the public to build.

"*The Decasualisation of Labour.*—I quite agree with the necessity for improvement in the method of employment, but is the suggestion to divert labour from the building industry to other industries really put forward as a serious proposal? The practical difficulties in the way of any such proposal are, I fear, insuperable. The suggestion is made of 'seasonable interchange of labour.' Is it the intention that during the winter months building should cease, and the skilled mechanics employed therein be transferred to some other work for which they are neither trained nor suited? The alternative work suggested is, I notice, 'afforestation, road-making, the preparation of sites for housing schemes, and the demolition of buildings.' I would venture to suggest three objections, which, singly, would be sufficient to prevent the adoption of such proposals: (1) If the weather is too wet for men to work on buildings, it is also too wet for them to work on any of the alternatives suggested, which are all open-air work; (2) a bricklayer, mason, or carpenter could hardly be expected to make a satisfactory navvy or agriculturist, to say nothing of the difference in wages; (3) how are men employed in, say, London, to be transported and housed on the proposed afforestation or road-making propositions? Further, what is to become of the clerical staff and management, and who would be financially responsible for the chaos which must ensue? If the idea is that work must continue as at present, and the men only transferred in the case of a few days or weeks of wet weather, the proposal is obviously still more impracticable.

"*Unemployment Pay.*—The excellent suggestion is put forward that a levy should be made on all wages paid and received, with which to form a fund to pay half wages during unavoidable unemployment. This, in effect, is compulsory 'provision for a rainy day,' a principle that should have been followed by the workmen in the past, as it has to be by people in other occupations. Moreover, the rate of wages is calculated on the assumption that the men must provide for the risk of bad weather. Under the heading of unemployment pay are hidden the two most revolutionary proposals put forward, they are:—(1) the workers must increase efficiency; (2) management and capital must consent to a limitation of their earnings. It is common knowledge, and is admitted readily by the workers themselves, that they could produce a great deal more in a week than they do at present, and the reasons for their lack of effort and its effect on the country as a whole are well put in your excellent leading article headed, 'Restriction of Output.' I believe that there is a general consensus of opinion that the real cure for restriction of output is to make it to the interest of the individual to produce as much as possible, in other words, to encourage payment by results; with proper safeguards against the exploitation of the workers. The suggestion put forward by the Committee in this and the following sub-heading, *i.e.*, Wages of Management and Hiring of Capital, would tend to aggravate rather than alleviate the trouble. The proposals are that employers also should be made to restrict their efforts, and should have all incentive to produce more work or cheaper work removed, and be encouraged to 'ca' canny' like the men. We cannot protest too strongly against such ruinous suggestions, both from a public and individual point of view. Your leading article on this aspect of the report, under the title, 'Pooling an Industry,' puts the case very clearly, but I would like to pursue the subject further. *Firstly*, the proposals might well lead to an increase of unemployment; there could be no great object in endeavouring to undertake more work and give employment to the maximum number of men, if the sole result were more responsibility and trouble and no possibility of additional recompense or profit. *Secondly*, it would be impossible to persuade capitalists to put their money into a business which could, as a maximum, only return them the same profit as they could get without any trouble or work by investing in Government securities, and, consequently, all the more progressive and keen men, who are the mainstay of any industry, having departed, the field would be left clear for the less competent and efficient employees. *Thirdly*, the cost of building would be continually increased, there would no longer be any incentive to produce economically, and the public would have to pay more and more for their houses and works, which in turn would increase the cost of all their produce to the detriment of Great Britain in the struggle for the world's commerce.

"*Alternative Proposal.*—It is useless to criticise the report without suggesting an alternative. I venture to put forward a proposal for increasing production by providing the necessary incentive to both employers and workmen, with a measure of security for both, and at the same time maintaining the competitive conditions which alone protect the public. It will be seen that the authority and prestige of the trade unions and the masters' associations are fully maintained, and the efforts of both employers and workmen brought into harmony with a common object, the betterment of all parties by mutual help. The following is my proposal: Committees should be appointed by employers and men for each of the trades concerned with the building industry. Each committee should consist of equal numbers of representatives of employers and men appointed by their respective associations or unions, with a quantity surveyor as chairman, appointed by the Surveyor's Institution. The committees should draw up a complete schedule of *basis labour rates* for every item connected with their respective trades, similar to the Office of Works or other schedules, but for *labour only*. The schedule should, if possible, be on a time basis, so that variations in rates of wages in different localities could be adjusted readily. It should be based upon the time occupied by a workman of average ability, working under reasonable conditions, and should hold good for an agreed period of, say, five years. Any disputes or differences between employer and workman in connection with the interpretation or working of the schedule would be referred to the joint committee, and should the committee decide that the work was in excess of that covered by the schedule, the authorised extra would be paid to both employer and workman, and the employer should be entitled under his contract to charge the extra to the building owner who is really morally liable..

"The operation of the schedule would be as follows:—(1) The workmen would be paid their wages weekly at the standard rate for the district for the number of hours actually worked, and half-pay for the number of hours lost through stress of weather (as suggested in the report under review). (2) At the end of each month, the work done should be measured up and valued at the agreed schedule rates. The excess value, the result of such measurement, over the amount actually paid out in wages should be divided between employer and workmen in proportions to be agreed upon, but I would suggest two-thirds to the workmen and one-third to the employer. The reason for dividing the surplus is that, whilst probably the greater part of the saving would be effected by the extra efforts of the men, yet the employer can contribute very largely to the reduction of cost by the supply of efficient plant and organisation. If there is no delay caused by want of materials, and labour is spared any avoidable effort by the use of the best appliances, the cost of the work must be reduced. The employer is, therefore, entitled to his share in the saving to remunerate him for the additional plant and effort required on his part. The advantages of this system are that there would be no opportunity for cutting the rates down on the part of the employer without the consent of the trade union in committee, so that the men could feel quite safe in exerting themselves, and, in any event, they would receive the full trade union rate of wages and half-pay for wet weather. The employers would have some definite basis to price upon, but, inasmuch as materials would not be fixed, he would have plenty of scope for competitive ingenuity in securing supplies in the best market and regulating the deliveries, in addition to the organisation and supply of plant to the job. In keen competition the employer might, for example, anticipate some saving in labour cost, and discount his share of it in the tender. The work of estimating would be considerably reduced, leaving the employer more time to look after the work actually in hand.

"The above is but a brief outline of the proposals I would like to see adopted, for I believe it would solve most of our troubles with the least disturbance to established practice."

TRADE DISPUTES.

AT a time when it is very important that every effort should be made to increase production and resuscitate trade, the following figures taken from the *Labour Gazette* for August, are very significant. In the first seven months of 1918, 437,000 workpeople were affected by trade disputes and the loss of working time amounted to 2,701,000 working days. That period included the most anxious period in the whole war. In the first seven months of the current year, 1,794,000 workpeople have been affected by trade disputes, and the loss of working days has been 19,832,000.

War weariness and frayed nerves may account to a great extent for some industrial dislocation, but these figures should be made known and pondered upon. A loss of nearly 20 million working days in a period of some 210 days is a very serious matter, and even these figures do not represent the true dislocation in trade, as many other workpeople and industries have indirectly been prejudicially affected by these disputes. It is to be hoped that an industrial peace may soon be signed and that all parties, both employers and workmen and the Government, may find a satisfactory *modus vivendi*, with the result that conciliation may take the place of the war spirit, and that all persons may whole-heartedly give themselves to the task of re-building the shattered edifice of industry.

NOTES FROM THE FOREIGN PRESS.

These notes are taken from the Technical Supplement to the *Review of the Foreign Press*, issued by the General Staff, War Office.

CEMENTS PRODUCING QUICK-HARDENING CONCRETE.

Cements having the property of hardening very rapidly were prepared at the Pittsburg branch of the U.S. Bureau of Standards. These were made in the same way as Portland cement, but they were composed very largely of lime and alumina. These calcium aluminates, when very high in alumina, do not have a very rapid marked initial set, but do harden very quickly, and therefore produce high early strengths. Some of the maximum strengths were 3,145 lbs. per square inch for 1 : 6 gravel concrete, tested in the form of a 6×12 in. cylinder, at the end of twenty-four hours, 6,010 lbs. per square inch at the end of seven days, and 8,220 lbs. per square inch at the end of one year. Tests were also made on 6×12 in. cylinders in which the bonding material was "Sorel cement." Cements are produced by gauging light calcined magnesia with magnesium chloride solution. Such a cement develops in twenty-four hours a strength approximately equivalent to that developed at the end of seven days by a similar concrete made with Portland cement. Both cements commend themselves for certain special uses where a quick-hardening concrete of high-strength is required. Neither would be desirable where subject to the continued action of water. (P. H. Bates, *Proceedings of the American Society for Testing Materials*, June).

ECONOMICAL BUILDING MATERIALS.

Dr. Emil Friedrich describes some of the hollow blocks and special blocks which together form the cell-like structure of walls which have been recommended for cheap buildings. ¶One of the outstanding features of the recent exhibition in Berlin was the number of designs for hollow walls. Various types of blocks are illustrated, such as the "Aristos," 25 by 25 by 14 cm., with which a special tool is employed to prevent the mortar filling the cavities and so increasing the cost and nullifying the design. Portions of walls are shown in which thin flat bricks are used edgewise, some being fixed lengthwise and others crosswise to form large square vertical cavities, but still obtain good bonding. Other designs are illustrated in which the blocks form a thin outer shell with protections pointing inwards, and against these protections are fixed on the inside thin slabs, which are afterwards plastered.—(*Die Volkswohnung*, Jan. 10 and 24).

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur :—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters	Masons' Labourers.	Bricklayers' Labourers	Plasterers' Labourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½	
Altrincham	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½	
Ashton-under-Lyne	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½	
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Barrow-in-Furness	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½	
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Bath	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/4½	1/4½	1/4½
Bedford	1/1	1/2	1/2	1/1	1/1	1/1	10	10	10	10
Birkenhead	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½	
Birmingham	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/8½	1/6½	1/6½	1/6½
Bishop Auckland	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Bolton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Bradford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½	1/2½	1/2½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/2½	1/2½	1/2½
Bristol	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Bury	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Cambridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1	11½	11½	11½
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Chatham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Cheltenham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/4½	1/4½	1/4½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Chesterfield	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Colchester	11	11½	11½	1/-	11	1/-	9½	9½	8½	8½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/5½	1/5½	1/5½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2½–1/2½§	
Darlington	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Derby	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/3	1/1	1/3½	1/3½	1/3½
Durham	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
East Glam. and Mon. Valleys	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Exeter	1/3	1/2	1/3	1/3	1/3	1/3	1/2	1/1	1/1	1/1
Folkestone	1/3½	1/3½	1/3½	1/3½	1/2½	1/3½	1/2½	1/-§	1/-§	1/-§
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½	1/3½	1/3½
Grantham	1/6½	1/6½	1/3½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Grays	1/7½§	1/7½§	1/7½§	1/7½§	1/7½§	1/8§	1/6½§	1/5½§	1/3½§	1/3½§
Grimsby	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Great Yarmouth	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½§	11½	11½	11½
Guildford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	1/-§	1/-§	1/-§
Halifax	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Hartlepools	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	1/-§	1/-§	1/-§
Hereford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/2½	1/2½	1/2½
Huddersfield	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Hull	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Ipswich	1/3½§	1/3½§	1/3½§	1/4§	1/4§	1/4½§	1/2§	1/1§	1/1§	1/1§
Lancaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Leamington Spa	11½	1/1½	11½	11½	11½	1/1½	1/0½	10½	10½	10½
Leeds	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½	1/5½	1/5½
Leicester	1/4	1/4	1/4	1/4	1/4	1/4	1/2	1/1½	1/1½	1/2
Lincoln	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	10½	10	10½
Liverpool	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Loudon	1/9½	1/9½	1/9½	1/9½	—	1/9½§	1/8½	1/5½	1/5½	1/5½
Loughborough	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Luton	1/6½§	1/6½§	1/6½§	1/6½§	1/6½§	1/6½§	1/5½§	1/3½§	1/3½§	1/3½§
Maidstone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Manchester	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Mansfield	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/0½	1/0½	1/1
Merthyr Tydfil	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Middlesbrough	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Newcastle-on-Tyne	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Northampton	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/0½	1/0½	1/0½
Norwich	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/0½	1/0½	1/0½
Nottingham	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½§	1/5½§	1/6½
Oldham	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/2½	1/2½	1/2½
Plymouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Pontypridd	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
Reading	1/7½	1/6½	1/6½	1/6½§	1/7½	1/6½	1/4½§	1/3½	1/3½§	1/3½§
Rochdale	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Rochester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Rugby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½§
St. Albans	1/4	1/4	1/6½	1/4	1/4	1/4–1/6	1/1½	1/-	1/-	1/0½
St. Helen's	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½
Sheffield	1/8½§	1/8½§	1/8½§	1/9½§	1/9½§	1/9½§	1/8½	1/5½	1/5½	1/5½
Shrewsbury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Southend-on-Sea	10	10	10	10	P'cework	10	9	8	8	8
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/3½§	
South Shields	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Stockport	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Stockton-on-Tees	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Stoke-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2½§	1/2½§	1/2½§
Stroud	1/4§	1/4§	1/4§	1/4§	1/4§	1/4§	1/3½§	1/2§	1/2§	1/2§
Sunderland	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/9½§	1/5½§	1/5½§	1/5½§
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½§	1/4½§	1/4½§
Taunton	1/4§	1/4§	1/4§	1/4§	1/4§	1/4§	1/4§	1/2§	1/2§	1/2§
Torquay	1/3§	1/3§	1/3§	1/3§	1/3§	1/3§	1/3§	1/1§	1/1§	1/1§
Wakefield	1/8§	1/8§	1/8§	1/8§	1/8§	1/8§	1/8§	1/5§	1/5§	1/5§
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/5½§	1/4½	1/4½	1/4½§
Warrington	1/8§	1/8§	1/8§	1/8§	1/8§	1/8§	1/8§		1/4½–1/4½§	
West Bromwich	1/7½§	1/7½§	1/4	1/3½	1/7½§	1/5½§	1/4½§	1/4½§	1/5§	
Wigan	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4½–1/4½§	
Windsor	1/4	1/4	1/4	1/4	1/4	1/4	1/2½	1/0½	1/0½	1/0½
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/5½	1/4½	1/4½	1/4½
Worcester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	1/1½§	1/1½§	1/1½§
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/4½	1/4½	1/4½

The Masons' rate given is for bankers : fixers usually ½d. per hour extra. * War bonus of 2s. per week granted. † War bonus of 3s. per week granted. ‡ War bonus of 3s. 6d. per week granted. ‡‡ War bonus of 5s. per week granted. ¶War bonus of 7s. 6d. per week granted. § These rates include the 12½ per cent. bonus. [The above rates, unless otherwise shown, are exclusive of 12½ per cent. bonus.—ED.]

COMPETITIONS, CONTRACTS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (✱) are advertised in this number. Contracts iv; Competitions iv; Public Appointments lxii; Sales by Auction lxvi. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

BUILDING AND PAINTING.

✱SEPTEMBER 13.—**Brentwood.**—The Metropolitan Asylums Board invite tenders for internal cleaning and painting work at "High Wood," Brentwood, Essex.

SEPTEMBER 13.—**Broomley.**—FARM HOUSE, &C.—The Small Holdings and Allotments Committee of the Northumberland County Council invite tenders for the erection of a farm house and farm buildings at Broomley, Stockfields. Specification of the County Land Agent, Moothall, Newcastle.

SEPTEMBER 15.—**Bromsgrove.**—HOUSES.—The R.D.C. invite tenders for the erection of sixteen houses in the parish of Hagley, eight houses type "A," eight houses type "B." Quantities of Mr. H. D. Holloway, Clerk to the Council, Union Offices, Birmingham-road, Bromsgrove. Deposit, £2 2s.

SEPTEMBER 15.—**Bury.**—ELECTRICITY BUILDINGS.—The Corporation invite tenders for the erection of buildings in connection with the electricity generating station extensions at Chamber Hall, Bury. Quantities of Mr. J. Ainsworth Little, Borough Engineer, Bank-street, Bury. Deposit £2.

SEPTEMBER 15.—**Debenham.**—ALTERATIONS.—The Debenham War Memorial Commiftee invite tenders for alterations and additions to a building in Debenham for a proposed new reading room. Specifications of Mr. T. Last, Debenham.

✱SEPTEMBER 15.—**Hendon.**—HOUSES.—The U.D.C. invite tenders for the erection of 37 artisans' dwellings at Child's Hill. Specifications of Mr. G. Hornblower, F.R.I.B.A., 2, Devonshire-terrace, Portland-place, W. Deposit, £5 5s.

SEPTEMBER 15.—**Horwich.**—HOUSES.—The U.D.C. invite tenders for the erection of 120 houses of various types at Lower Brayiay. Quantities of Mr. Thomas Green, Surveyor to the Council, Public Hall, Horwich. Deposit £2 2s.

SEPTEMBER 15.—**Huddersfield.**—Tenders are invited for the erection of a branch store in Longwood and Quarmby-roads, Royds Hall, for the Huddersfield Industrial Society, Ltd. Quantities of Mr. J. F. Prentis, Buxton-road, Huddersfield.

✱SEPTEMBER 15.—**Isleworth.**—The Commissioners of His Majesty's Works, Storey's Gate, Westminster, S.W. 1, are prepared to receive tenders for the erection of a new Post Office at Isleworth.

SEPTEMBER 15.—**Llanelly.**—HOUSES.—The Corporation invite tenders for the erection of 44 houses at Capel. Forms of tender of Town Clerk, Llanelly. Deposit £10 10s.

SEPTEMBER 15.—**Mountain Ash.**—Tenders are invited for the erection of a reading room in Glyn Gwyn-street, Mountain Ash, for the trustees of Nixon's Workman's Institute. Specifications of Mr. W. L. Smith, secretary, Workmen's Institute, Mountain Ash.

SEPTEMBER 15.—**Swaffham.**—COTTAGES.—The Swaffham R.D.C. invite tenders for the erection of three pairs of cottages at Cockley Clay and four pairs at Sporle. Quantities of Mr. J. Owen Bond, architect, 20, Castle Meadow, Norwich.

SEPTEMBER 16.—**Askern.**—HOUSE.—Tenders are invited for the erection of a picture house. Quantities of Mr. T. H. Johnson, 20, Priory-place, Doncaster.

SEPTEMBER 16.—**Hunslet.**—HOUSING.—The R.D.C. invite tenders for the erection of eighty-six houses at Woodlesford, near Leeds, and 155 houses at Halton. Quantities of Mr. E. G. Allen, 4, Arundel-street, Strand, London. Deposit, £1 1s.

SEPTEMBER 16.—**Leeds.**—MESSROOM.—The Leeds Sewerage Committee invite tenders for the erection of a workmen's messroom, &c. Quantities of the Sewerage Engineer, (Mr. Geo. A. Hart, M.Inst.C.E.), Pearl Chambers, East Parade, Leeds. Deposit £2 2s.

SEPTEMBER 16.—**Leeds.**—PAINTING.—The Board of Guardians invite tenders for the inside painting of section 6 of the Infirmary, Beckett-street. Specifications of Mr. J. H. Ford, Clerk, Poor Law Offices, South Parade, Leeds.

SEPTEMBER 16.—**Prestwich.**—HOUSING.—The Council invite tenders for the erection of thirty-two houses on the Bent-hill estate. Tenders may be for single blocks of two or four houses, for the general drainage, division walls and fences, or for the whole scheme. Quantities of Mr. S. H. Morgan, Engineer to the Council, Bent Hill, Prestwich. Deposit, £2 2s.

SEPTEMBER 17.—**Bourne, Lincs.**—COTTAGES.—The R.D.C. invite tenders for the erection of six cottages at Billingborough, four cottages at Dowsby, four cottages at Hacconby, and six cottages at Rippingdal. Quantities of the Surveyor, Surveyor's Office, West-street, Bourne.

SEPTEMBER 17.—**Coventry.**—ENLARGEMENT.—The Education Committee invite tenders for the enlargement of Little Heath Council School, Coventry. Quantities of the Education Department, Council House, Coventry. Deposit, £1 1s.

✱SEPTEMBER 17.—**Pembury.**—The Commissioners of His Majesty's Works, Storey's-gate, London, S.W. 1, are prepared to receive tenders for the erection of cottages at Pembury (South Wales).

SEPTEMBER 18.—**Chapel-en-le-Frith.**—HOUSES.—The R.D.C. invite tenders for the erection of 14 houses at Chapel End. Quantities of Mr. C. Flint, architect, 5, The Quadrant, Buxton. Deposit, £1 1s.

SEPTEMBER 18.—**Crick.**—HOUSES.—The R.D.C. invite tenders for building two pairs of houses at Kilsly, near Rugby. Quantities of Mr. T. Williams, Surveyor to the Council, Rugby. Deposit, £1 1s.

✱SEPTEMBER 18.—**Greenwich.**—The Guardians of the Greenwich Union invite tenders for the execution of work of alteration and adaptation of existing dormitories at the Institution, East Greenwich, into nurses' bedrooms.

✱SEPTEMBER 18.—**London, E.**—The Guardians of the Stepney Union invite tenders for interior painting and distempering work at their Institution at St. Leonard's-street, Bromley-by-Bow, E. 3.

SEPTEMBER 18.—**Stepney.**—PAINTING.—The Guardians invite tenders for interior painting and distempering work at their Institution at St. Leonard's-street, Bromley-by-Bow, E. 3. Specification of Mr. A. J. Smith, Clerk, Guardians' Offices, Barnes-street, Commercial-road, East Stepney, E. 14.

✱SEPTEMBER 19.—**Cookham.**—The Cookham R.D.C. invite tenders for the erection of six cottages at Cox Green and six at Holyport in the Parish of Bray.

SEPTEMBER 19.—**Rothwell.**—HOUSING.—The U.D.C. invite tenders for the erection of 80 houses. Quantities of Mr. Walter Dodgson, Clerk to the Council, Council Offices, Rothwell, Yorks. Deposit, £1 1s.

✱SEPTEMBER 19.—**Wrotham (Kent).**—The Wrotham U.D.C. invite tenders for the erection of 30 cottages at Borough Green, Kent.

SEPTEMBER 20.—**Elland.**—PAINTING.—Tenders are invited for painting the Congregational Church. Specifications of Mr. B. Hanson, Langdale Post Office, Elland.

SEPTEMBER 20.—**Hove.**—PAINTING.—The Corporation invite tenders for painting and distempering walls, ceilings, &c., at the Hove Sanatorium, Portslade. Specifications of Mr. H. H. Scott, Borough Engineer, Hove.

✱SEPTEMBER 20.—**Witney.**—The Witney Urban District Council invite tenders for the erection of fourteen working-class houses at Witney.

SEPTEMBER 22.—**Leeds.**—PAINTING.—The Corporation invite tenders for painting the Wholesale Meat Market and the Corn Exchange. Specifications of Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

SEPTEMBER 22.—**Rochford.**—REPAIRS.—The Guardians invite tenders for the repair of the Workhouse Laundry, Rochford, relaying 200 square yards of tarpaving and 30 square yards of concrete at Acacia-road, Rochford. Particulars of the Master of the Workhouse, Rochford.

✱SEPTEMBER 22.—**Swansea.**—SCHOOL, &C.—The Swansea Education Committee invite tenders for the erection of a new secondary school for girls and enlargements of the existing one for boys, in Dynevor-place, Swansea.

✱SEPTEMBER 23.—**Aberdare.**—The Aberdare U.D.C invite tenders for the following works, viz.:—1. Abernant Housing Scheme:—(a) The construction of roads, footpaths, sewers, and other works incidental to the laying-out of the site; (b) the erection of 16 houses on the site in blocks of four. 2. Cwmneol Housing Scheme:—(a) The construction of roads, footpaths, sewers and other works incidental to the laying-out of the site; (b) the erection of 72 houses on the site, in pairs and blocks of four.

SEPTEMBER 23.—**Bridgwater.**—REPAIRS.—The Council invite tenders for the repairs and painting to the pumping station at Ashford, the reservoir and cottage, Town Hall and municipal buildings, the Free Library and Isolation Hospital. Specifications of the Borough Surveyor, Municipal Buildings, Bridgwater.

SEPTEMBER 23.—**Llandaff.**—ADDITIONS.—Tenders are invited for considerable additions to the Retreat, Fairwater-road, Llandaff, for F. S. Duncan, Esq. Quantities of Mr. G. E. Halliday, Esq., 9, Quay-street Cardiff.

✱SEPTEMBER 23.—**Wembley.**—HOUSES.—The Wembley Urban District Council invite tenders for the erection of 18 houses on the Christchurch Estate, Wembley. Alternative tenders are desired for the erection of the houses in other forms of construction than brick. Quantities of the Surveyor to the Council, Council Offices, Wembley. Deposit £2 2s.

SEPTEMBER 25.—**Leeds.**—HOUSES.—The Corporation invite tenders for the erection of 85 houses on the Ivy House Estate, off York-road, Leeds; and 86 houses on the Hawksworth Wood Estate, Kirkstall, Leeds. Quantities of Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds. Deposit, £1 1s.

SEPTEMBER 25.—**Southwark.**—ALTERATIONS.—The Guardians invite tenders for the alterations at their offices in Ufford-street, Blackfriars-road, S.E. Quantities of Mr. A. Saxon Snell, 9, Bentinck-street, W. 1. Deposit £5.

✱SEPTEMBER 26.—**London, E.C.**—The Commissioners of His Majesty's Works, Storey's Gate, Westminster, S.W. 1, invite tenders for the erection of a telephone exchange at the corner of Great Tower-street, St. Dunstan's Hill, E.C.

✱SEPTEMBER 26.—**Woking.**—The Woking Urban District Council invite tenders for the erection of 21 pairs of cottages at Woking Village, of three different types. Plans and bills of quantities may be obtained upon payment of two guineas.

SEPTEMBER 27.—**Lewisham.**—PAINTING.—The Guardians invite tenders for the painting, decorating, and general repairs of the workhouse and infirmary, together with paving and road repairs. Quantities of Mr. W. R. Owen, Clerk to the Guardians, Guardians' Offices, 394, High-street, Lewisham, S.E. 13. Deposit £5.

SEPTEMBER 29.—**Stratford-upon-Avon.**—The Borough of Stratford-upon-Avon invite tenders for the following work:—(1) Erection and completion of 70 houses in the Evesham-road, in the said Borough; (2) the construction of roads and sewers in connection with the scheme.

✱SEPTEMBER 30.—**London.**—The Commissioners of H.M.O.W. invite tenders for the foundations, &c., for the New Sorting Office, Mount Pleasant, E.C.

✱OCTOBER 1.—**London.**—The Guardians of the Parish of St. Leonard, Shoreditch, invite tenders for external painting, pointing and repairs to the whole of the Kingsland-road house and infirmary buildings, nurses' home, mortuary, &c., in Kingsland-road, E., and Hoxton-street, N., and the Casual Wards in Reeves-place, N.

✱OCTOBER 1.—**London.**—The Guardians of Wandsworth Union invite tenders for painting works, &c. (*a*) at the Infirmary, St. John's-hill; (*b*) at the Intermediate Schools, Swaffield-road.

OCTOBER 1.—**Orsett.**—HOUSES.—The R.D.C. invite tenders for the erection of 32 houses at Little Thurrock, near Grays, Essex. Quantities of Mr. James Beck, Clerk to the Council, 2, Orsett-road, Grays. Deposit £3.

OCTOBER 3.—**Huddersfield.**—The Corporation invite tenders for the erection of a car depot at St. Thomas-road, Longroyd Bridge. Quantities of Mr. R. F. Campbell, Borough Engineer, 1, Peel-street, Huddersfield.

✱OCTOBER 6.—**London, E.**—The London County Council invite tenders for the supply and erection of oak wrought framed, moulded and braced carriage and foot gates to the Royal entrance at Victoria Park, E.

✱OCTOBER 6.—**Newport (Mon.).**—The Housing Committee of the Newport Corporation invite tenders for the erection of the first 100 houses on the Somerton Estate.

✱OCTOBER 6.—**Watford.**—The Watford U.D.C. invite tenders for the erection of 40 cottages on the Willow-lane Estate, Watford.

✱OCTOBER 6.—**Watford.**—The Watford U.D.C. invite tenders for the erection of 40 cottages on the Harebreaks Estate, Watford.

✱OCTOBER 7.—**Leicester.**—The Estates Committee of the Corporation of Leicester invite tenders for the erection of the first portion of the Coleman-road Housing Scheme consisting of 120 houses.

✱OCTOBER 14.—**Farnham.**—The Farnham U.D.C. invite tenders for (1) Thirty-four houses by four separate tenders in three groups of eight houses and one of ten houses; (2) Roads, sewers, footpaths, surface water drains, &c.; (3) Fences; (4) Planting hedges, trees, shrubs, &c., preparing for sowing verges and an open space.

NO DATE.—**Birmingham.**—PAINTING.—Tenders are invited for the external painting of 200 wooden bungalows. Quantities of Mr. J. W. Wilson, Longbridge Estate Office, Birmingham.

NO DATE.—**Evesham.**—HOUSES.—The R.D.C. invite tenders for the erection of twenty-four cottages at Badsey and sixteen cottages at South Littleton. Quantities of Mr. R. J. Atkinson, Architect, Union Offices, Evesham. Deposit, £2 2s.

NO DATE.—Tenders are invited for the painting and whitewashing the outside of Shipwright's Buildings, Howdon-on-Tyne. Particulars of Mr. J. E. Hayhoe, 54, Gallant-terrace, Howdon.

NO DATE.—**Hucknall.**—Tenders are invited for the erection of a bakery at Hucknall. Qunatities of J. C. Howitt, Secretary, Hucknall Torkard Industrial Provident Society, Ltd., Hucknall. Deposit, £2 2s.

NO DATE.—**Hull.**—BUILDING.—Tenders are invited for the erection of a two-storey building, about 100 ft. × 60 ft., Sculcoates-lane, Hull, for Messrs. Blundell, Spence & Co., Ltd. Quantities of Messrs. B. S. Jacobs & Snowden, Green Ginger, Hull.

NO DATE.—**Kirkcaldy.**—FACTORY.—Tenders are invited for the excavation of brick and concrete works, iron and steel works, carpenter and joiner and glazier works, plumber work and painting work, in connection with the erection of a factory at Wemyss Station, for the British Patent Fuels, Ltd. Quantities of Mr. W. Williamson, Royal Bank Buildings, Kirkcaldy.

NO DATE.—**Meathop, Grange-over-Sands.**—Tenders are invited for the various works required in building a small hospital block at the Westmoreland Sanatorium, Meathop, Grange-over-Sands. Quantities of Mr. John Hutton, Architect, Meathop, Grange-over-Sands.

NO DATE.—**Ruislip.**—COTTAGES.—The U.D.C. invite tenders for the erection of 34 cottages at Eastcote and 59 at Ruislip. Quantities of Mr. E. R. Abbott, Clerk, Council Offices, Northwood, Middlesex.

NO DATE.—**Tamworth.**—HOUSES.—The R.D.C. invite tenders for the erection of two or more houses up to forty on the Kettlebrook site. Quantities of Messrs. Newton & Cheatle, 39, Newhall-street, Birmingham.

NO DATE.—**Yeovil.**—HOUSES.—The R.D.C. invite tenders for the erection of 12 houses at Montacute; 6 houses at Mudford; 10 houses at Norton-sub-Hampton; 16 houses (eight on each of two sites), at South Petherton. Forms of tender of Messrs. Petter & Warren, 74, Hendford, Yeovil.

FURNITURE, MATERIALS, etc.

SEPTEMBER 15.—**Battersea.**—KERBING.—The Borough Council invite tenders for the supply of 800 feet of 12 in. by 8 in. Guernsey granite dressed kerb. Specifications of Mr. W. Marcus Wilkins, Town Clerk, Town Hall, Battersea.

SEPTEMBER 15.—**Crompton.**—GRANITE.—The U.D.C. invite tenders for the supply of 300 tons of 4 in. by 5 in. granite setts. Particulars of Mr. F. F. Gartside, Clerk and Surveyor, Town Hall, Shaw.

SEPTEMBER 18.—**Lambeth.**—MATERIALS.—The B.C. invite tenders for road materials, disinfectants, &c. Forms of tender of Mr. H. E. Anderson, Borough Engineer, Lambeth Town Hall, Brixton Hill, S.W.

SEPTEMBER 20.—**Falkirk.**—STORES.—The Cross Chemical Co., Ltd., Falkirk, invite tenders for the supply of stores for their Camelon Works, for six months. Schedules of Mr. James Ford, Secretary, 19, Hope-street, Glasgow.

NO DATE.—**West Ashford.**—GRANITE.—The R.D.C invite tenders for the supply and delivery to railway stations of 1,000 tons of 1½-inch granite. Forms of tender of Mr. A. Sims, Surveyor to the Council, 17A, Bank-street, Ashford, Kent.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 12.—**Annfield Plain.**—ELECTRICITY SYSTEM.—The Annfield Plain Urban District Council invite tenders for the construction of an overhead low-tension electricity distributing system throughout the Urban District. Specifications of Mr. J. H. Senior, Clerk, Council Offices, Annfield Plain, Durham. Deposit £2 2s.

SEPTEMBER 15.—**Southend-on-Sea.**—TRAMWAY RAIL.—The Corporation invite tenders for the supply of 150 tons Sandberg silicon steel tramway rails (British Standard No. 5). Specifications of Mr. R. H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea.

SEPTEMBER 16.—**Baildon.**—STEAM ROLLERS, &C.—The U.D.C. invite tenders for the supply of a 12-ton steam roller, and detached road scarifier, and a petro lorry with tipping arrangement. Mr. J. Bentley Clerk, Council Offices, Baildon.

SEPTEMBER 16.—**India Office, S.W.**—AXLE BOXES.—The Secretary of State for India in Council invites tenders for the supply of axle boxes. Conditions of contract of the Director-General of Stores, India Office, Whitehall, S.W.

SEPTEMBER 16.—**Portsmouth.**—RAILS.—The Tramways Committee invite tenders for the supply of 3,200 tons steel girder tram rails (B.S., section No. 3); 180 tons steel fish-plates; 40 tons fish-bolts; 85 tons W.I. tie bars (5 ft.). Specifications of Mr. V. G. Lironi Engineer's Office, Fratton-grove, Portsmouth.

SEPTEMBER 16.—**Stourbridge.**—SATURATOR.—The Gas Committee invite tenders for the delivery and connecting-up to existing plants. Particulars of Mr. C. H. Webb, Engineer, Gas Works, Stourbridge.

SEPTEMBER 18.—**Atherton.**—The U.D.C. invite teeders for the supply of one boiler plate cubicle. Particulars of Mr. B. Darby, Electrical Engineer, Town Hall, Atherton.

SEPTEMBER 22.—**Dundee.**—RAILS.—The Harbour Trustees invite tenders for the supply and delivery of 25 tons of steel rails with the necessary fish plates and fish bolts; also 3 sets of switch blades. Specification of Mr. J. Hannay Thompson, Engineer, Dundee Harbour Trust.

ROAD, SANITARY, AND WATER WORKS.

SEPTEMBER 13.—**Hayes.**—ROADS AND SEWERS.—The U.D.C. invite tenders for the construction of roads, sewers, &c., in connection with the Government housing scheme. Quantities of Mr. D. C. Fidler, Surveyor, Hayes. Deposit £2 2s.

SEPTEMBER 13.—**Rotherham.**—SEWERS.—The R.D.C. invite tenders for the construction of 1,800 yards of 12 in. by 9 in. stoneware pipe sewers, &c., at Laughton-en-le-Morthen and Brampton-en-le-Morthen. Quantities of Mr. C. O. Rawstron, Engineer, Imperial Buildings, Rotherham. Deposit £2 2s.

SEPTEMBER 15.—**St. Helens.**—PAVING.—The T.C. invite tenders for granite paving in Hale for Borough Road, College-street and Sutton-road. Quantities of Mr. A. W. Bradley, Borough Surveyor, Town Hall, St. Helens. Deposit, £1 1s.

SEPTEMBER 15.—**Llanelly.**—SEWERS.—The Corporation invite tenders for the construction of roads and sewers in connection with the erection of 44 houses at Capel. Forms of tender of Town Clerk, Llanelly. Deposit £10 10s.

SEPTEMBER 15.—**Mountain Ash.**—Tenders are invited for the excavating and removal of 1,000 cubic yards of spoils from proposed site of War Memorial near the Workmen's Institute, Mountain Ash, to Abercwmboi Fields. Plans of Mr. W. L. Smith, Secretary, Workmen's Institute, Mountain Ash.

SEPTEMBER 15.—**Wigan.**—SEWERING, &C.—The Corporation invite tenders for sewering, excavating, filling, forming, ballasting, kerbing, &c., on the Beech Hill Estate (Scheme No. 1). Quantities of Mr. R. B. Donald, Borough Engineer, Wigan. Deposit, £2 2s.

✱SEPTEMBER 16.—**Brentford.**—The Brentford Urban District Council invite tenders for the relaying of the wood paving on the Haunches of the High-street and Kew Bridge-road, Brentford.

SEPTEMBER 16.—**Dawlish.**—GAS MAINS.—The Gas and Coke Co., Ltd., invite tenders for the laying of 440 yards of mains. Specifications of Mr. H. Versey, Manager and Secretary, Gas Office, Dawlish.

SEPTEMBER 16.—**Prestwich.**—SEWER.—The District Council invite tenders for the work and materials required in the construction of (1) A concrete tube sewer, 30 in., 33 in., and 48 in. in diameter, from the Sewage Disposal Works to Rectory-lane. (2) A concrete tube sewer, 24 in. in diameter, in Bury New-road and Fairfax-road. Quantities of Mr. S. H. Morgan, Bent Hill, Prestwich. Deposit, £2 2s.

SEPTEMBER 17.—**Wilberfoss and Thornton Level.**—DRAINAGE.—The Drainage Board invite tenders for widening, deepening, &c., on "The Beck, Black Foss Beck, &c." between Hagg-bridge and Melbourne Kings, in the East Riding of York. Quantities of Messrs. Fairbank & Son, Lindal-chambers, York.

SEPTEMBER 18.—**Rugby.**—SEWERS.—The R.D.C. invite tenders for constructing filters and works of sewage disposal at Dimchurch, near Rugby. Quantities of Mr. T. W. Willard, Surveyor to the Council, Rugby. Deposit, £1 1s.

SEPTEMBER 22.—**Abersychan.**—SEWERS.—The U.D.C. invite tenders for the construction of sewers, surface water drains, the excavation for carriage ways, &c., forming the foundation of carriage ways, &c., in connection with the lay-out of the Penygarn site. Quantities of Messrs. Kinshole & Bevan, Station-road, Bargoed. Deposit £5 5s.

SEPTEMBER 22.—**Frimley.**—KERBING.—The U.D.C. invite tenders for the supply and laying of 4,300 lineal yards of hard blue pennant stone kerbing. Specifications of Mr. H. Fox Hill, Engineer, Municipal-buildings, Camberley.

SEPTEMBER 23.—**Aberdare.**—ROADS.—The U.D.C. invite tenders for (1) the erection of 16 houses in blocks of four on the Abernant site, together with the construction of roads, sewers, and other works; (2) the erection of 72 houses on the Cwmncol site, together with the construction of roads, sewers and other works. Quantities of Mr. W. D. Jenkins, Architect to the Council, Town Hall, Aberdare. Deposit £5.

SEPTEMBER 23.—**London.**—WATER MAIN.—The Managers of the Poplar and Stepney Sick Asylum invite tenders for a new cold water main, &c., at the District Sick Asylum, Devons-road, Bow, E. Specifications of Mr. S. G. Wright, Clerk, Devons-road, London, E.

✱SEPTEMBER 23.—**Wembley.**—ROADS AND SEWERS.—The Wembley Urban District Council invite tenders for the construction of roads and sewers in connection with their housing scheme on the Christchurch Estate, Wembley. Quantities of the Surveyor to the Council, Council Offices, Wembley, Middlesex. Deposit £2 2s.

✱SEPTEMBER 23.—**Willesden.**—The Willesden D.Cr invite tenders for the laying of 16,000 yards super os thereabouts of wood paving in certain thoroughfare, in the district of Willesden.

SEPTEMBER 27.—**Menai Bridge.**—RESERVOIR.—The U.D.C. invite tenders for the construction of an open-air reservoir and providing and laying of cast-iron pipes, valves, &c., in connection with the water supply of Menai Bridge. Specifications of Mr. W. Owen, Council Offices, Dale-street, Menai Bridge.

SEPTEMBER 30.—**Huddersfield.**—The Corporation invite tenders for the widening of Vicarage-road, Longwood, on the north-east side, together with the pulling down and re-erection of urinal and contingent works. Quantities of Mr. K. F. Campbell, Borough Engineer, 1, Peel-street, Huddersfield.

NO DATE.—**Blackwell.**—The R.D.C. invite tenders for works of surface drainage at Pinxton. Particulars of Mr. H. Silcock, Surveyor, 67, West-gate, Mansfield.

NO DATE.—**Tamworth.**—ROAD AND SEWER.—The R.D.C. invite tenders for the construction of a street, and laying gas, water and sewer mains on the Kettlebrook site. Quantities of Messrs. Newton & Cheatle, 39, Newhall-street, Birmingham.

Auction Sales, Tenders, &c.

✱SEPTEMBER 16.—**London, S.W.**—Messrs. Allsop & Co. will sell by direction of the Disposal Board, at Preece's Riding School, Hollywood-road, Fulham, surplus building material, household fixtures, baths, sinks, cupboards, &c.

✱SEPTEMBER 16, 17 AND 18.—**London.**—Messrs. Geering & Colyer will sell by order of the Ontario Government and Maple Leaf Club Committee, at 11, 13, and 15, Grosvenor-gardens, S.W. 1, and the Maple Leaf Club Hut, Grosvenor-gardens, a quantity of sanitary fittings, timber, &c., also furniture, bedding and effects.

✱SEPTEMBER 18, 19.—**Slimbridge.**—Messrs. Bruton, Knowles & Co. will sell by direction of the disposal Board, at H.M. Magazine, Old Hurst, Slimbridge (12 miles from Gloucester) six sectional wooden hut buildings, mess room, officers' quarters, &c.

✱SEPTEMBER 22.—**London, E.C.**—Messrs. Leopold Farmer & Sons will sell, with possession, at Winchester House, Old Broad-street, E.C., valuable freehold building site, Moscow-road, Bayswater, W.

✱SEPTEMBER 25.—**Walthamstow.**—Messrs. Daniel Watney & Sons will sell, in one lot, at Winchester House, Old Broad-street, E.C., compact freehold building estate, Chestnuts Farm, 67¼ acres, ripe for immediate development, with long frontages to Chingford-road, &c.

✱SEPTEMBER 26.—**Slough.**—Messrs. Joseph Hibbard & Sons, by joint instructions from the Board of Trade and the Surplus Disposal Board, will sell at Depot, Black Park, on the Uxbridge–Slough Road, stock of English timber, including 30,000 ft. cube of oak and beech, cut into planks and boards from 1 in. to 6 in.

✱SEPTEMBER 26.—**Uxbridge.**—Messrs. Knight, Frank & Rutley will sell at the Hanover-square Estate Room, four small dwelling houses at Uxbridge, well-placed business premises, building land, small licensed premises known as "The Cricketers Arms," small holding 35½ acres, allotment ground, also orchard land 10½ acres.

✱SEPTEMBER 25, 26, 27.—**London, N.**—Messrs. Weatherall & Green will sell by direction of the Disposal Board, at the National Projectile Factory, Ponders End, various useful building materials, quantity of iron girders.

✱OCTOBER 1.—**Hants.**—Messrs. Joseph Hibbard & Sons will sell by order of the Board of Trade, at Longmoor Camp, near Liphook, Hants, stock of English soft and hard woods; large variety.

✱OCTOBER 8.—**Fittleworth, Sussex.**—A brick and tile works is included in Messrs. May & Rowden's auction at Wisborough Green.

✱NO DATE.—**Elmswell.**—Sales by tender by order of the Disposal Board (Ministry of Munitions). Elmsworth Aerodrome, Suffolk, for disposal as a whole, or the building and land on which they stand, without the aerodrome itself. The buildings are of corrugated asbestic sheeting, brick, corrugated iron and timber. There is a water supply, and electric light plant, permanent roads, &c.

✱NO DATE.—**Salford.**—The Borough of Salford Gas Department invite tenders for the purchase and removal of brickmaking machinery.

✱NO DATE.—**Tangmere and Ford.**—Sales by tender by Order of the Disposal Board, Ministry of Munitions. Tangmere Aerodrome for disposal as an aerodrome. Area 198¼ acres. Ford (Littlehampton) Aerodrome, Sussex, for disposal as an aerodrome. Area 167 acres.

Competitions.

(*For list of Competitions Open, see page 279.*)

Public Appointments.

✱SEPTEMBER 13.—**Buntingford.**—The Buntingford Rural District Council require the services of a Clerk of the Works for their Housing Scheme.

✱SEPTEMBER 13.—**Coventry.**—The General Works Committee of the Corporation of the City of Coventry is prepared to receive applications for the appointment of a Building Inspector in the City Engineer's Department. The appointment will be temporary, but will be of at least twelve months' duration.

SEPTEMBER 13.—**Newmarket.**—The Newmarket R.D.C. invite applications from fully-qualified men for the appointment of Quantity Surveyor in connection with their Housing Scheme.

SEPTEMBER 17.—**Blackburn.**—Applications are invited for the appointment of a fully qualified Quantity Surveying Assistant, in connection with the Council's housing schemes. Salary £300 per annum.

✱SEPTEMBER 17.—**Northallerton.**—The North Riding of Yorkshire County Council desire the services of an assistant to the county surveyor. Salary £400.

SEPTEMBER 18.—**Watford.**—The Watford Urban District Council invite applications for the appointment of Inspector of Buildings and private streets improvements.

✱SEPTEMBER 19.—**Bexhill.**—The Bexhill Borough Council invite applications for the appointment of a qualified architectural and surveying Assistant. Salary £240.

✱SEPTEMBER 20.—**Lambeth, S.E.**—The Metropolitan Borough of Lambeth invite applications for the position of Architect in connection with the Housing Scheme to be carried out by the Borough Council.

✱SEPTEMBER 20.—**Truro.**—The Cornwall County Council invite applications for (1) three draughtsmen; (2) one senior clerk. (Temporary appointments.)

✱SEPTEMBER 20.—**Wallasey.**—The Wallasey Council invite applications for the appointment of a temporary architectural assistant. Salary £230.

✱SEPTEMBER 20.—**Woolwich.**—The Metropolitan Borough of Woolwich invites applications for an assistant in the Borough Engineer's Department. Salary £300 per annum, inclusive.

✱SEPTEMBER 22.—**Bacup.**—The Bacup Borough Council invite applications for the appointment, in connection with their Housing and Town Planning Schemes, of an architectural assistant at a salary of £300.

✱SEPTEMBER 23.—**Stafford.**—The Corporation of Stafford require a clerk of works for their housing scheme

✱SEPTEMBER 26.—**Merton.**—The Merton and Morden U.D.C. are desirous of appointing a fully-qualified architect for the purpose of designing and supervising the erection of about 250 to 350 houses.

✱SEPTEMBER 26.—**Stafford.**—The Staffordshire Education Committee invite applications for the appointment of two architectural assistants.

✱SEPTEMBER 27.—**London.**—The L.C.C. invite application for the positions of instructors in handicraft woodwork).

SEPTEMBER.—**Leicester.**—The Director of Education of the City of Leicester invites applications for the appointment of a full-time Instructor in Plumbing and the Allied Building Trade subjects. Salary £350 per onnum.

Annual Outing.

The employees of Messrs. Wm. Shurmur & Sons, Ltd., contractors, held their annual outing and sports at the White Hart Hotel, Holmwood, Surrey, on August 30, being accompanied by Messrs. W. G. & F. R. Shurmur, who presided at a dinner, and were supported by several friends of the firm. The good feeling existing between the directors and employees was emphasised in the short speeches given by some of the employees and the directors. After the sports, tea was then partaken of, and the party left Holmwood at 7.15.

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PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council

ABERDEEN.—Messrs. Alexander Pirie & Sons, of the Stoneywood Paper Mills, have offered twenty acres of land to the C.C., at a nominal rent, provided the Council will erect houses thereon.

ANDOVER.—Mr. Matthews has been authorised by the T.C. to prepare a scheme for the extension of the waterworks.

BAKEWELL.—The Duke of Devonshire has given sites for the erection of working class houses at Ashford and Beeley.

BRIDLINGTON.—Plans passed by T.C.: Greenhouse, "Newcroft," Cardigan-road, for Mr. G. Waite; baths and lavatories, &c., Imperial Boarding House, by Mr. B. H. Stanford, county architect, for the governors of the High School for Girls; motor garage, Boughley House, George-street, for Mr. Barnby; additions, 63, Wellington-road, for Mr. F. E. Brown; house, North Mount Farm, Bempton-lane, for East Riding C.C.; balcony, at "Ville Flora," Marine-drive, by Mr. Perkin, for Mrs. Piercey; alterations, Imperial Sale Rooms, Quay-road, for Messrs. F. Purdon & Sons; garage, Summerfield-road, for Mr. F. E. Grey; garage, "Le Estamina," Marine-drive, for Mr. F. Gresham.

BURNLEY.—The following plans have been passed by the Improvement Committee: F. Groome, Ltd., erection of a garage in Shaw-street; Lancaster, Son & Parkinson, for the erection of a garage in Rossendale-road; J. Grimshaw, Ltd., for the re-building of the "Pavilion" Cinema, in Church-street; Mr. J. Wigglesworth, for the erection of a cinema in Brougham street and Gordon-street; Mr. Geo. Duckett, for the erection of a garage at the Barracks, Accrington-road; Express Motors, Ltd., for the erection of a petrol store at Market Bridge Mill, Manchester-road; H. Greenhaigh & Co., Ltd., for the extension to Dye Works at Cavour-street; the Trustees of the Stoneyholme Conservative Club, for the alterations to their Club at Royle-road.

CARMARTHEN.—The Town Council has decided to build 24 houses.

CHIRK.—Plans have been approved by the R.D.C. for the erection of 136 houses on a 17-acre site.

DONCASTER.—Plans have been passed for the erection of 239 houses, to be erected on the Corporation Carr House estate, at a cost of £210,000, exclusive of the site. It is proposed to erect 750 houses in all.

FLEET.—Mr. T. J. Moss Flower, the engineer, reports that an additional sum of £43,000 or £44,000 will be required for the completion of the sewage disposal works.

GRIMSBY.—The Corporation have decided to erect a thousand houses on land to be purchased from Lord Yarborough. The scheme, which is on garden city lines, is estimated to cost nearly £1,000,000.

HEANOR.—The U.D.C. has agreed to purchase 52 acres of land for building purposes, on the Ilkeston-road.

HENDON.—The U.D.C. has secured approval of a scheme for the erection of 246 houses near the Old Welsh Harp.

NOTTINGHAM.—The Council have put in plans for 350 houses.

NOTTINGHAM.—Arrangements have been made by the Corporation for the purchase from the Duke of Newcastle of a site upon which it is now proposed to proceed with the first portion of the city's housing schemes. The land has been acquired for £180 an acre, and tenders for building houses at an approximate cost of £331,000 have been recommended for acceptance.

ROTHERHAM.—The Corporation propose to erect 3,000 houses, at a cost of £2,500,000. Sites for 2,000 houses have been secured and work has been commenced on 265 of these houses.

THORNE.—The R.D.C. has sent in plans to the Ministry of Health for six housing schemes, which together cover an area of 48 acres.

WELSHPOOL.—In consequence of the difficulties experienced in regard to water, the T.C. has decided to instruct expert engineers to consider the question of an augmentation of the supply.

CATALOGUES RECEIVED.—Messrs. Super-Cement, Ltd.—Pamphlet giving results of tests and experiments with "Super-cement."

Mr. B. F. Hartley, Lode, Cambridge.—Illustrated list and description of "Dri-crete" concrete-block machine.

* See also our List of Competitions, Contracts, etc.

NEW COMPANIES.

ALLOTT BROTHERS & LEIGH, LTD. (156,387). Fullerton-road, Rotherham. Registered June 24, 1919. To carry on the business of constructional steel and general engineers. Nominal capital, £10,000.

AMALGAMATED BUILDERS, LTD. (155,478.) Registered May 27, 1919. 10A, Idol-lane, E.C. To carry on the business of builders and contractors, &c. Nominal capital, £2,000.

BEAVER ENGINEERING CO., LTD. (155,482.) Registered May 27, 1919. To carry on the business of manufacturers' agents, factors and merchants, in all kinds of machines for extracting dust, vacuum and carry on the business of mechanical, electrical and general engineers, &c. Directors to be appointed by subscribers. Nominal capital, £2,000.

BENSLY & Co., LTD. (155,483.) Registered May 27, 1919. To acquire and carry on the business of timber, slate, &c., merchants. Nominal capital, £500.

CAT-AR CONSTRUCTIONS, LTD., Capel House, 54, New Broad-street, E.C. 2. (156,548.) Registered June 30, 1919. To acquire and carry on the business of concrete block makers, builders, contractors, &c. Nominal capital, £3,000.

CHING STOPPANE & Co., LTD., Milner's Chambers, George-street, Cardiff. (156,821.) Registered July 8, 1919. To carry on business of builders, &c. Nominal capital, £10,000.

JOHN H. DOWNING, LTD. (155,735). Registered June 4, 1919. 305, High-street, Stirckley, Birmingham. To carry on the business of glass, lead, oil and colour and general merchants, &c. Nominal capital, £2,000.

DARBY & SONS, LTD. (155,769). Registered June 5, 1919. Weston Works, 12, 13 and 14, Weston-street, King's-cross, London. To acquire and carry on the business of manufacturers of oil and gas stoves and heating apparatus, zinc, tin, and japanned goods, &c. Nominal capital, £10,000.

GREENHITHE BRICKWORKS, LTD. (155,582.) Registered May 29, 1919. The Stone Wood Brickworks, Bean, near Greenhithe, Kent. To acquire and carry on the business indicated by title. Nominal capital, £1,000.

JOHN MCCRETON, LTD. (155,586.) Registered May 29, 1919. 25, West Terrance, near Ormesby, Middlesex. To carry on the business of builders' contractors, property repairers and general building work. Nominal capital, £5,000.

GRIFFITHS & CO. (TIMBER MERCHANTS), LTD. (156,093). 51, Cyril Street, Newport, Mon. Registered June 16, 1919. To carry on the business of timber merchants. Nominal capital, £2,000.

GOITRE BRICKWORKS, LTD. (156,259). Registered June 20, 1919. Crown Chambers, Newtown, Montgomeryshire. To acquire and carry on the business of brick, pipe and tile manufacturer. Nominal capital, £5,000.

FREDERICK HAYDEN, LTD. (156,156). 35, High-street, Tunbridge Wells. Registered June 18, 1919. To acquire and carry on the business of ironmongers, hot and cold water, and general engineers and builders' merchants. Nominal capital, £10,000.

HENRY JEW & SONS, LTD. (156,343). Registered June 23, 1919. To acquire and carry on the business of joiner and builder, &c.

KING'S SIGNS, LTD. (155,788). Registered June 5, 1919. 23, Collingwood-street, Blackfriars-road, S.E. To acquire and carry on the business of sand blast decorative works. Nominal capital, £1,000.

WILLIAM MOSS & SONS, LTD. (155,539.) Registered May 27, 1919. Queens-road, Loughborough. To carry on the business of builders, plumbers, engineers, &c. Nominal capital, £100,000,

MYLAN & SMITH (ENGINEERS), LTD. (155,595.) Registered May 29, 1919. 10, East Parade, Sheffield. To carry on the business of electrical, mechanical, civil and constructional engineers. Nominal capital, £5,000,

NORTHCOTE, LTD. (155,636.) Registered May 30, 1919. 9, Bennett's Hill, Birmingham. To carry on the business of builders and contractors, merchants, &c. Nominal capital, £5,000.

J. R. OWEN, Ltd. (155,550.) Registered May 28, 1919. To acquire and carry on the business of brick manufacturers and general building and haulage contractor. Nominal capital, £7,500.

ALEXANDER PRINGLE, LTD. (156,507). "Cramer Dykes," Gateshead, Durham. Registered June 28, 1919. To carry on the business of builders and contractors, and all building and constructional work in all its branches. Nominal capital, £10,000.

R. E. ROBERTS & SON, LTD. (156,447). Bury-road, Lead Works, Bury-road, Bolton, Lancashire. Registered June 26, 1919. To carry on the business of lead pipe manufacturers, plumbers, sanitary engineers, &c. Nominal capital, £5,000.

P. L. M. D. SCREW & BOLT CO., LTD. (155,881). Registered June 7, 1919. 16, Dewsbury Road, Leeds, York. To carry on the business as indicated by title. Nominal capital, £5,000.

TYLORS (WATER AND SANITARY), LTD. (155,717). Registered June 2, 1919. Bell Isle, York-road, King's-cross, N. To acquire and carry on the business of sanitary and waterworks engineers and water-meter manufacturers. Nominal capital, £75,000.

TIMBER OPERATORS AND CONTRACTORS, LTD. (155,752). Registered June 5. 11 and 12, Pall Mall, W. 1. To carry on the business of lumber operators, timber merchants, &c. Nominal capital, £500,000.

WORKS DEVELOPMENT CO., LTD. (155,789) Registered June 5, 1919. 42, Albemarle-street, W. 1. To carry on the business of builders, contractors, civil, mechanical and electrical engineers, &c. Nominal capital, £5,000.

WARWICK & CO. (HEDGE END), LTD. (156,279). Registered June 20, 1919. To establish and carry on the business of builders and contractors, &c. Nominal capital, £1,000.

WHATLEY, BONNIWELL AND ROBYNS, LTD. (155,920). Registered June 10, 1919. To carry on the business of brick and tile makers, &c. Nominal capital, £20,000.

Building Trades Hours.

A largely attended meeting of the employers' organisations, representing the main branches of industry, and convened by the National Federation of Employers' Organisations, was held at the Midland Grand Hotel, St. Pancras, last week, for the purpose of considering the application which had been made in the building trades for a forty-four hour week. Sir Allan M. Smith, chairman of the management committee of the Engineering Employers' Federation, presided. It was decided that in view of the urgent necessity of increasing national output, and until evidence is available that the reduction in hours which have been made in certain industries are economically sound, any further reduction in hours should be strongly resisted. The meeting further resolved to give every possible support to the employers concerned in resisting the demand for a forty-four hour week.

Financial Assistance of Overseas' Trade.

The Government is prepared, from Sept. 9, through the Export Credits' Department (10, Basinghall-street, E.C.2), to consider applications for advances up to 80 per cent. of the cost of the goods, plus freight and insurance, for goods sold to Finland, the Baltic provinces (Latvia, Esthonia and Lithuania), Poland, Cszecho-Slavakia, Jugo-Slavia and the areas in Russia to which the scheme for insurance against abnormal commercial risks applies. Advances will not be made for the export of raw materials, and preference will be given to goods where the larger part of the cost is due to manufacture in this country. Mr. L. A. Davis, deputy foreign manager of Barclays Bank, has been appointed manager of the department.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	3 16 6

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	2 15 6	Best Blue Pressed Staffordshire	9 3 6
Best Stourbridge Fire bricks	10 10 0	Do. Bullnose	9 8 6
		Blue Wire Cuts	7 13 6
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers	21 10 0	D'ble Str'tch'rs	28 10 0
		D'ble Headers	25 10 0
		One Side and two Ends	29 10 0
Headers	21 0 0	Two Sides and one End	30 10 0
Quoins, Bullnose and 4½in. Flats	26 10 0	Splays and Squints	23 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	15 6	per yard, delivered
Pit Sand	18 6	
Thames Sand	20 0	" " 2 miles
Best Washed Sand	19 0	" " radius
½in. Shingle for Ferro-Concrete	18 0	" " Paddington.
¼ in. " "	19 0	" "

Per ton. delivered in London area.

	£ s. d.	
Best Portland Cement	3 13 6 ..	3 16 6

66/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	5 0
Best Ground Blue Lias Lime	2 10 0 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 55s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 42s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 0
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 1½
Do. do. delivered on road waggons at Nine Elms Depot	2 2½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Mileage Station G.W.R., per ft. cube	3 6½
Do. do. delivered on road waggons at above stations, per ft. cube	3 7½
White basebed, 3d. per ft. cube extra.	

NOTE.—½d. ft. cube extra for every foot over 20 ft. average.

RANDOM BLOCKS—Per Ft. Cube, delivered at Rly. Dpot.

	s. d.		s. d.
Ancaster in blocks	3 2	Closeburn Red Freestone	3 4
Beer in blocks	1 11	Red & White Mansfield random block	5 2
Grinshill in blocks	2 9	Yellow Magnesian Limestone do. do	4 2
Darley Dale in blocks	3 2		

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station London. s. d.
Scappled random blocks ..... Per Ft. Cube 7 0
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super 5 6
6 in. rubbed two sides, ditto ..... " 6 2
3 in. sawn two sides slabs (random sizes) " 2 5
2 in. to 2½ in. sawn one side slabs (random sizes) ..... " 1 5½
1½ in. to 2 in. ditto, ditto ..... " 1 3

HARD YORK—
Delivered at any Goods Station London.
Scappled random blocks ..... Per Ft. Cube 6 0
6 in. sawn two sides landing to sizes (under 40 ft. super.) ..... Per Ft. Super 5 0
6 in. rubbed two sides ditto ..... " 6 0
4 in. sawn two sides slabs (random sizes) " 2 10½
3 in. ditto, ditto " 2 2
2 in. self-faced random flags .. Per Yard Super 6 10

WOOD.

(The following prices are the Controller's prices fixed Feb. 7, 1919. The control is now removed.)

Pursuant to paragraph 3 of the Timber Control Order, 1918, the Controller of Timber Supplies hereby gives notice that until further notice the following shall be the maximum prices at which imported timber may be sold. These prices are per standard landed and in store.

WHITE SEA REDWOOD.

Inches	1st £ s.	2nd £ s.	3rd and unsorted £ s.	4th £ s.
4 × 11	54 10	52 10	49 10	47 10
4 × 9	50 10	48 10	45 10	43 10
4 × 8	47 10	45 10	42 10	40 10
4 × 7	47 10	45 10	42 10	40 10
3 × 8	46 10	44 10	41 10	39 10
3 × 7	46 0	44 0	41 0	39 0
3 × 6	45 10	43 10	40 10	38 10
3 × 5	45 10	43 10	39 10	37 10
2½ to 3 × 11	53 10	51 10	48 10	46 10
2½ to 3 × 9	48 0	46 0	43 0	41 0
2½ × 7 to 8	46 0	44 0	41 0	39 0
2½ × 6	45 10	43 10	40 10	38 10
2½ × 5	45 10	43 10	39 10	37 10
2 × 11	53 10	51 10	48 10	46 10
2 × 9	48 0	46 0	43 0	41 0
2 × 8	46 10	44 10	41 10	39 10
2 × 7	46 0	44 0	41 0	39 0
2 × 6	45 10	43 10	40 10	38 10
2 × 5	44 10	42 10	39 10	37 10
2 × 4	44 10	42 10	40 0	38 0

UNSORTED LARCH WOOD at 3rd Archangel Redwood Prices.
Boards, 1st and 2nd, £1 10s. extra.
Boards, 3rd and 4th, £1 extra.

WOOD (*Continued*).

FEATHER EDGED BOARDS, £40 10s. per std.
SAWN LATHS, 3s. per bundle.
U/S SLATING BATTENS (yellow and white and strips), £35.
SWEDISH AND NORWEGIAN FLOORING AND MATCHING.
U/S Red and White.

Per 100 ft. super.	Per 100 ft. super
1¼in. P.E. at 60/-	¾in. P.E. at 30/-
1¼in. P.E. at 50/-	¾in. P.E. at 25/6
1in. P.E. at 40/-	½in. P.E. at 20/6
⅞in. P.E. at 35/-	

T. & G. and Match Lining at 6d. per square extra.

PLANED BOARDS—11 in., £45 per standard; 10 in., £43 per standard; 9 in., £43 per standard; 8 in., £41 per standard.

YELLOW PINE.

Inches	1st £ s.	2nd £ s.	3rd £ s.	4th £ s.
3 × 12 and up	67 0	55 0	50 10	44 0
3 × 11	64 0	53 0	48 10	44 0
3 × 10	58 0	48 0	44 0	42 0
3 × 9	57 0	47 0	43 0	41 0
3 × 8	55 0	45 0	42 0	39 0
3 × 7	55 0	45 0	42 0	39 0
3 × 6 and down	52 0	42 0	40 0	37 0

For complete specification and controlled prices, see "London Gazette," February 7, 1919.

Dry Wainscot Oak, per ft. super, as inch	0 2 6	to	0 3 0
¼ in. do. do.	0 2 0	to	0 2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 6	to	0 3 0
Cuba. Mahogany	0 3 6	to	0 4 0
Teak (Rangoon, Moulmein or Java), per load	60 0 0	to	85 0 0
American Whitewood planks, per ft. cube	0 18 0	to	1 0 0
Scotch Glue, per cwt.	5 5 0	..	—
Liquid Glue, per gal'on	0 17 0	..	—

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	48 10 0
" "	22 by 12	35 0 0
First quality "	22 by 11	32 5 0
" "	20 by 12	32 0 0
Best Blue Portmadoc	20 by 10	27 10 0
" "	18 by 10	22 0 0
First quality "	18 by 9	18 0 0
" "	16 by 10	17 0 0
" "	16 by 8	13 5 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	6 2 6
Ditto hand-made ditto	5 7 6
Ornamental ditto	6 10 0
Hip and valley tiles (per dozen)	0 14 0

METALS.

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £10 net value delivered direct from works. 5 per cent. less carriage forward if sent from London stocks.)

	Sizes up to and including 2 in. Tubes.	Fittings.	Sizes 2½ in. to 6 in. Tubes.	Fittings.
Gas	26½	32½	31½	37½
Water	13½	28½	26½	35
Steam	11½	25	21½	32½
Galvanised Gas	7½	25	12½	30
" Water	+2½	−21½	−50	−27½
" Steam	+12½	−17½	+2½	−25

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles s. d.
2 in. per yd. in 6 fts.	4 7	3 4	4 0
2½ in. " "	5 6	3 8	5 0
3 in. " "	6 9	4 0	6 0
3½ in. " "	7 6	5 0	7 0
4 in. " "	7 11	5 8	8 0

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles s. d.
2 in. per yd. in 6fts. plain	3 4	1 10	2 6
2½ in. " "	3 0	2 2	3 0
3 in. " "	4 5	2 8	4 0
3½ in. " "	5 4	3 2	4 8
4 in. " "	5 7½	3 10	5 8

L.C.C. DRAIN PIPES,—9 ft. lengths. London Prices. 4 in., 8s. 4d. .. 5 in.. 9s. 7d. .. 6 in., 11s. 9d.

Per ton in London.

IRON—	£ s. d.		£ s. d.
Common Bars	24 0 0	to	25 0 0
Staffordshire Crown Bars - good merchant quality	25 0 0	..	26 0 0
Staffordshire "Marked Bars"	26 0 0	..	27 0 0
Mild Steel Bars	22 10 0	..	23 10 0
Steel Bars, Ferro-Concrete quality, basis price	22 0 0	..	23 0 0
Hoop Iron, basis price	27 0 0	..	28 0 0
" " Galvanised	38 0 0	..	—
Sheet Iron Black—			
Ordinary sizes to 20 g.	25 0 0	..	25 10 0
" " 24 g.	26 0 0	..	26 10 0
" " 26 g.	27 0 0	..	28 0 0
Sheet Iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	34 0 0	..	— (Nominal prices)
Ordinary sizes to 22 g. and 24 g.	34 0 0	..	34 10 0 (Nominal prices)
Ordinary sizes to 26 g.	36 0 0	..	36 10 0 (Nominal prices)

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	35 10 0	..	(Nominal prices.)
" " 22 g. and 24 g.	36 0 0	..	(Nominal prices.)
Ordinary sizes to 26 g.	39 0 0	..	(Nominal prices.)
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.	33 0 0	..	(Nominal prices only.)
Ordinary sizes, 22 g. and 24 g.	33 10 0	..	(Nominal prices only.)
Ordinary sizes, 26 g.	32 10 0	..	(Nominal prices only.)
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	27 0 0	—	—
Best Soft Steel Sheets, 20 g. and 24 g.	27 5 0	..	—
Best Soft Steel Sheets, 26 g.	29 0 0	..	—
Cut Nails, 3 in. to 6 in.	31 0 0	..	32 0 0

(Under 3 in. usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	37 0 0	..	—
Pipe in coils	37 10 0	..	—
Soil Pipe	40 0 0	..	—
Compo pipe	42 10 0	..	—
Old lead, ex London area, at Mills per ton	23 10 0	..	—
Do., ex country, carriage forward per ton	24 10 0	..	—

NOTE—Country delivery, 20s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

COPPER—			
Strong Sheet per lb.	0 2 3	..	—
Thin " "	0 2 4	..	—
Copper nails "	0 2 3	..	—
Copper wire "	0 2 4	..	—
TIN—English Ingots "	0 2 10	..	—
SOLDER—Plumbers' "	0 1 3	..	—
Tinmen's "	0 1 5	..	—
Blowpipe "	0 1 8	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	7½d.	32 oz. fourths	10½d.
" thirds	8d.	" thirds	11½d.
21 " fourths	8½d.	Fluted, Obscured and Enamelled Sheet,	
" thirds	8½d.	15 oz.	7½d.
26 " fourths	9½d.	21 "	8½d.
" thirds	10½d.		

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
¼ Rolled plate (unobtainable)	—
¼ Rough rolled and rough cast plate	6d.
¼ Rough rolled and rough cast plate	8½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	7½d.
Rolled Sheet	6d.
White Rolled Cathedral	6d.
Tinted do.	6½d.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil	in pipes per gallon	0 9 6
" " "	in barrels "	0 9 10
" " "	in drums "	0 10 3
Boiled " "	in barrels "	0 10 4
" " "	in drums "	0 10 6
Turpentine	in barrels "	0 11 5
"	in drums (10 gall.) "	0 11 11
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		75 0 0
GENUINE WHITE LEAD PAINT— "Blackfriars," "Nine Elms," "Park," and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	95 10 0
Red Lead, Dry (packages extra)	per ton	46 10 0
Best Linseed Oil Putty	per cwt.	1 11 3
Filocol	per cwt.	0 18 6
Size. X D Quality	fkn.	0 6 0

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish	Outside	0 17 0
Fine ditto	ditto	0 19 0
Fine Copal	ditto	0 20 0
Pale Copal	ditto	0 21 0
Pale Copal Carriage	ditto	0 23 6
Best ditto	ditto	0 33 6
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 17 0
Fine Copal Cabinet	ditto	0 21 6
Fine Copal flatting	ditto	0 19 6
Hard drying Oak	ditto	0 17 0
Fine Hard drying Oak	ditto	0 18 0
Fine Copal Varnish	ditto	0 19 6
Pale ditto	ditto	0 21 6
Best ditto	ditto	0 33 6
Best Japan Gold Size		0 19 0
Best Black Japan		0 22 0
Oak and Mahogany Stain		0 21 0
Brunswick Black		0 14 0
Berlin Black		0 19 0
Knotting		0 31 0
French and Brush Polish		0 22 0
Liquid Dryers in Terebine		0 17 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than 12 noon on Wednesday*.

*** Denotes *accepted* † Denotes *provisionally accepted*.**

‡ Denotes *recommended for acceptance*.

CAERPHILLY (GLAM.).—For the erection of a new Infants' School at Penrheol, Caerphilly, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff :—

*Davies & Lloyd, Seyheydd, nr. Cardiff £7,460 14

CONSETT.—For roadmaking and construction of Sewers in connection with the No. 1 Farm area (12 acres) and Stanley Street area (2 acres), for the Urban District Council. Mr. F. Hargreaves, surveyor, Consett :—

*Ayton & Sons, Blackhill	£8624 19 6
Thos. Rearsley, Leigh, Lancs ..	8702 10 6
G. Mackay, Edinburgh.....	9342 2 9
R. Gallagher, Blackhill	10582 0 0
W. Robson, Newcastle-on-Tyne	11388 11 9
Walter Jones & Co., London ..	11980 0 0
H. E. Pitt, Sunderland	12587 0 0
S. Butler & Co., Middlesbrough	13876 5 5
J. R. Surtees, Blackhill	14330 0 0
Starkey & Sons, Hull	14708 7 6
R. C. Brebner & Co., Cramlington	15070 9 8
Hy. Boot & Sons, London	17600 0 0

CREWE.—For painting the Isolation Hospital, fo the T.C. :—

Mr. Fletcher, Crewe £376 11 7

NORTHAMPTON.—The item in our last issue, for the construction of Broughton Service Reservoir No. 2, for the Corporation, should have read "Messrs. Wm. Muirhead, Macdonald, Wilson & Co., Ltd., Birmingham, £33,886 12s. 7d., recommended," and not "rescinded," as stated.

NUNEATON.—For the erection of thirty houses in connection with the Bath-road housing scheme, for the Town Council. Mr. F. C. Cook, surveyor and engineer to the Council :—

Contract No. 1.—Two houses, with living-room, three bedrooms, scullery, and bathroom upstairs :—

*Meigh & Green, Nuneaton ..	£1,600 0 0
Goode & Son, Coventry ..	1,749 0 0
G. Cooper & Son, Nuneaton ..	2,125 0 0

Contract No. 2.—Eight houses, with parlour, living-room, three bedrooms, and bathroom upstairs :—

*Meigh & Green	£6,700 0 0
Goode & Son	7,835 10 0
G. E. & W. Wincott, Nuneaton	7,937 12 8
G. Cooper & Son	7,980 16 2

Contract No. 3.—Eight houses, with living-room, scullery, three bedrooms, and bathroom downstairs :—

*Meigh & Green	6,311 12 0
Goode & Son	6,955 0 0

Contract No. 4.—Eight houses, with parlour, living-room, scullery, three bedrooms, and bathroom upstairs :—

*Meigh & Green	£7,374 8 0
Goode & Son	7,895 5 0

Contract No. 5.—Four houses, with living-room, scullery, three bedrooms, and bathroom downstairs :—

*Meigh & Green	£2,993 10 0
Goode & Son	3,250 0 0

Furniture Trades' Amalgamation.

The Cabinet Trades' Federation, the London Centre of the National Federation of Furniture Manufacturers (with which the Upholstery Trades' Federation was already incorporated) and the London Cabinet Manufacturers' Association have amalgamated, and formed the London Cabinet and Upholstery Trades' Federation, with head offices at 18, Finsbury-square, E.C. 2. The following have been appointed officers of the new Federation: President, Mr. J. Croft Smith; vice-presidents, Messrs. W. Howard and A. Younger; hon. treasurer, Mr. S. Lebus; general secretary, Mr. H. E. W. Taylor.

Building Trade Wages.

The South-Eastern Conciliation Board has made an award in the building trade in West Surrey, under which carpenters and bricklayers will receive 1s. 6d. per hour, painters 1s. 5d., scaffolders 1s. 4d., and labourers 1s. 3d. The new scale is to hold good for six months.

The Zeta Wood Flooring Co. (1910), Ltd., have received instructions to lay Bennett's Patent Damp-proof and Double-keyed System at the Building Training Centre, Brixton, for the London County Council; they have also recently laid the same system at the laboratory at Keiller's factory, Silvertown.

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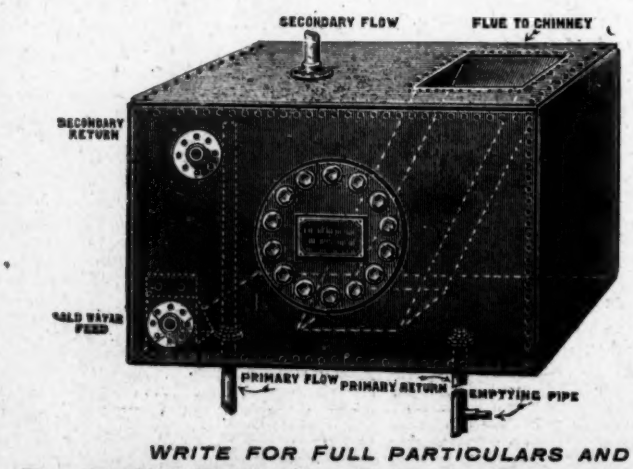

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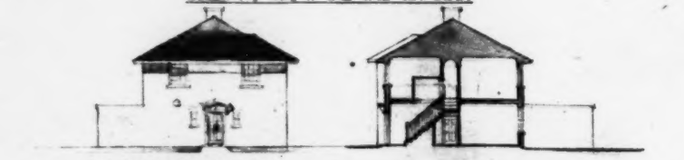
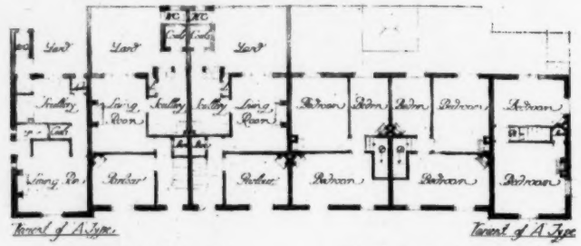
Scale: 1 Tot to the Inch = Feet.



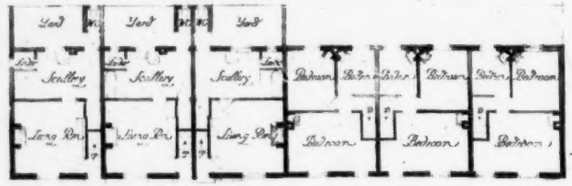
The Side Elevation. The Section.

The Elevation showing 'B' Type of House.



Half Ground Floor Plan. Half First Floor Plan.

'B' Type of House.



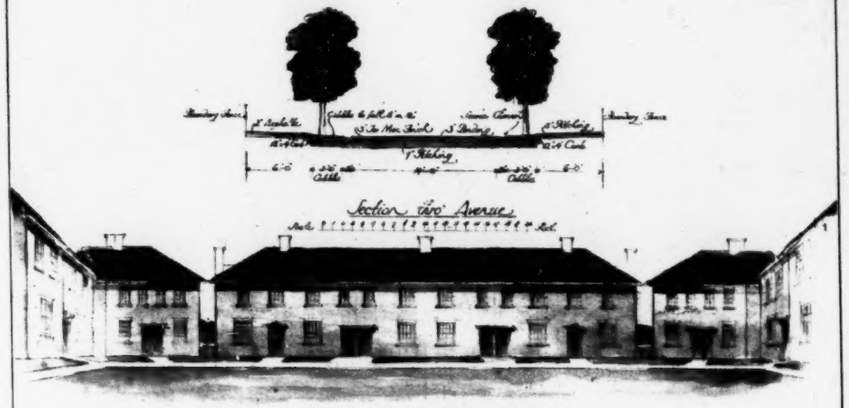
Half Ground Floor Plan. Half First Floor Plan.

'A' Type of House.

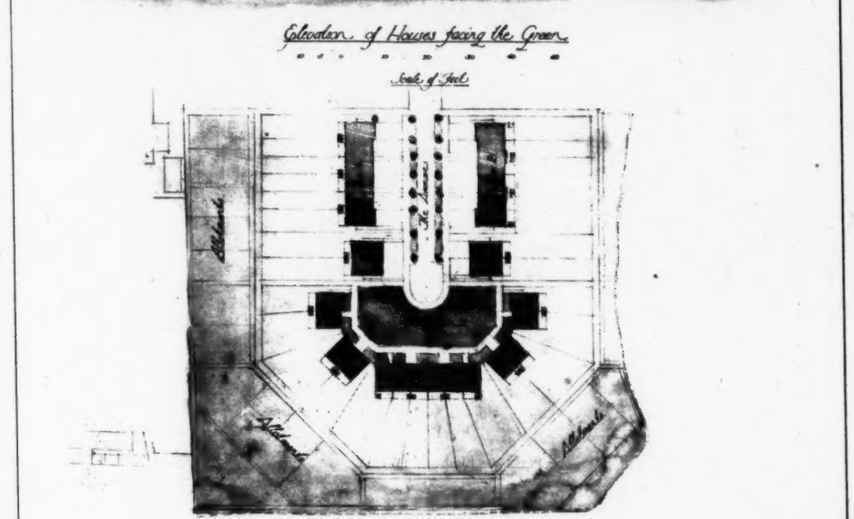
Note. Elevations to be found on another Sheet.

SUGGESTED TYPES OF HOUSES.

By Mr. Gordon Hemn.



Section thro' Avenue.



Elevation of Houses facing the Green.

Scale of Feet.

The Layout.

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SMALL LAY-OUT PROJECT, COMPRISING 30 HOUSES.

SUGGESTED TYPES OF HOUSES.

SMALL LAY-OUT PROJECT, COMPRISING 30 HOUSES.

By Mr. Gordon Hemm.

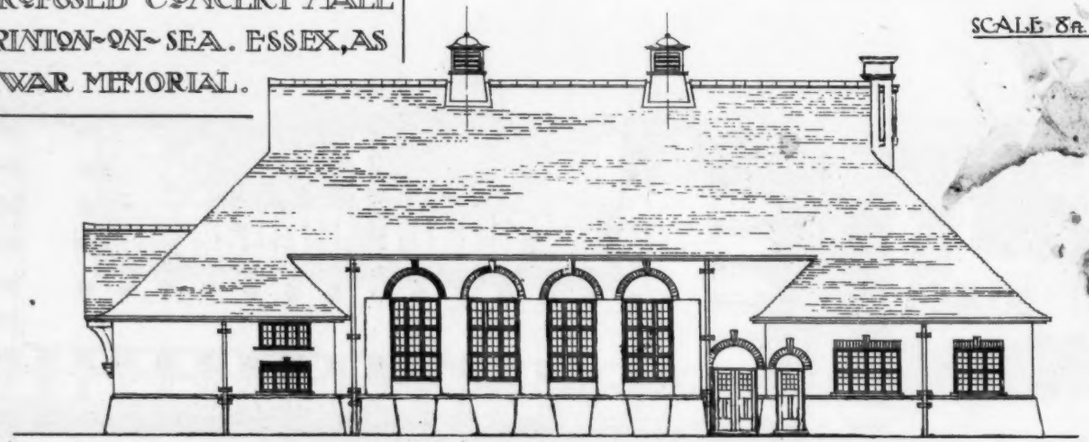
R.A. Exhibition.

DESIGN FOR A MODERN TEXTILE BUILDING.—Messrs. Bradshaw, Gass & Hope, Architects.

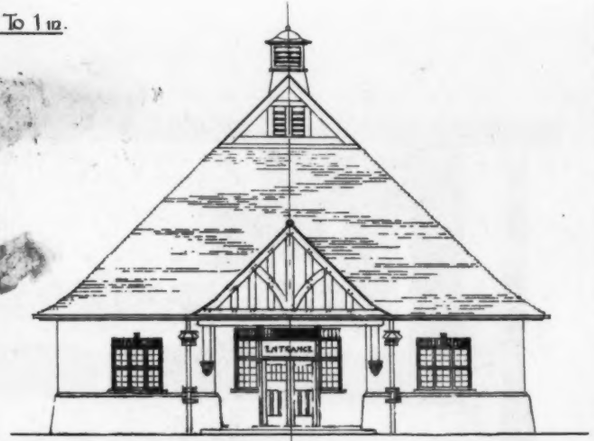
CINEMATOGRAPH THEATRE, WALSALL.—Messrs. Percy L. Browne & Glover, Architects.

PROPOSED CONCERT HALL FRINTON-ON-SEA. ESSEX, AS A WAR MEMORIAL.

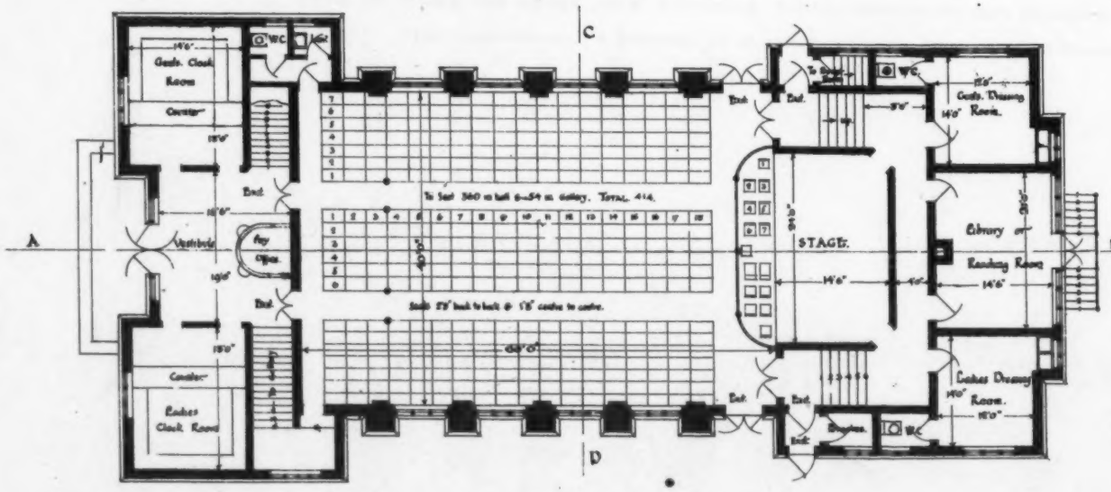
SCALE 8ft. To 1 in.



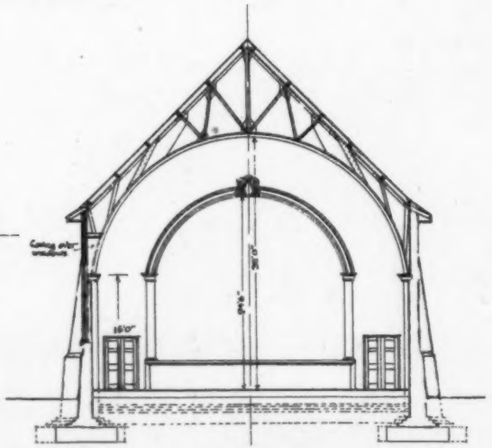
SIDE ELEVATION.



FRONT ELEVATION.

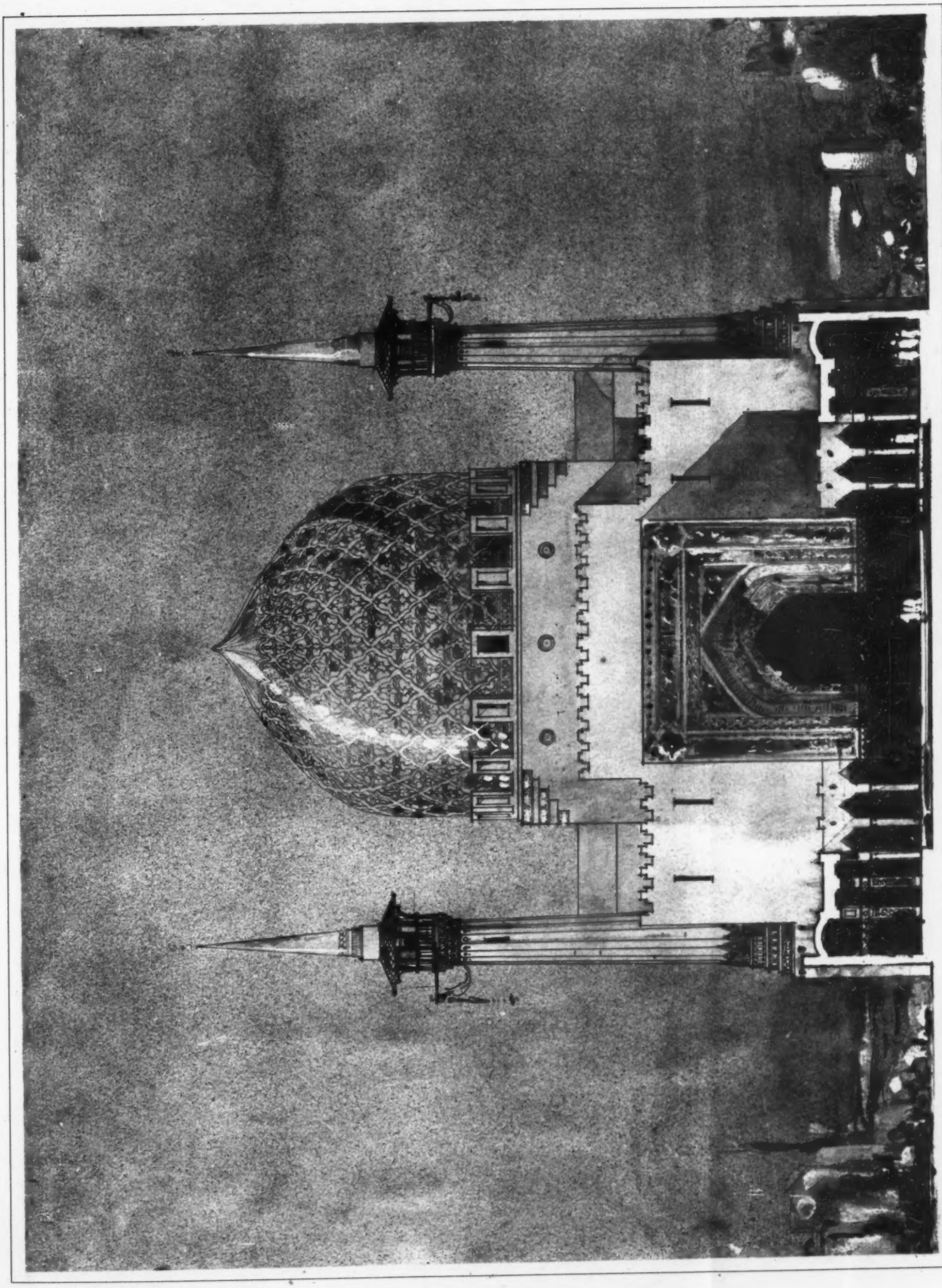


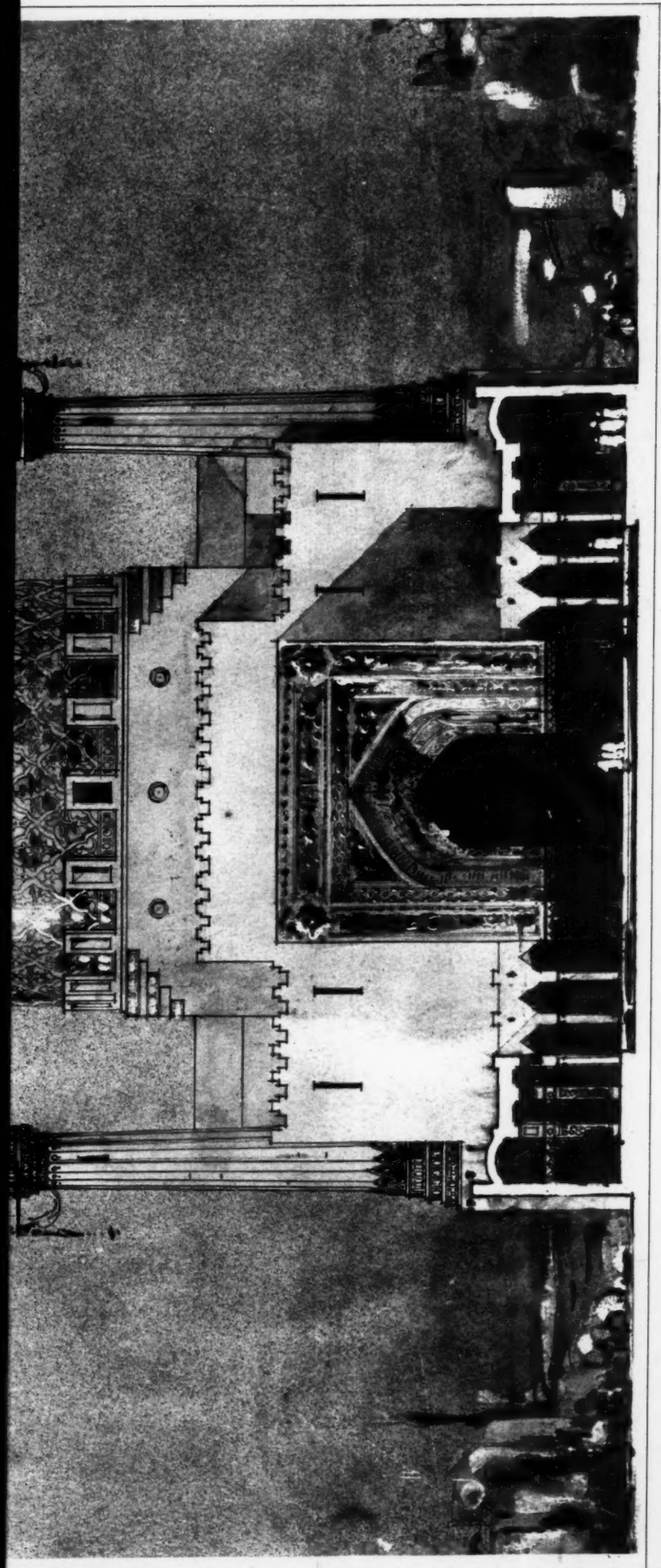
PLAN.

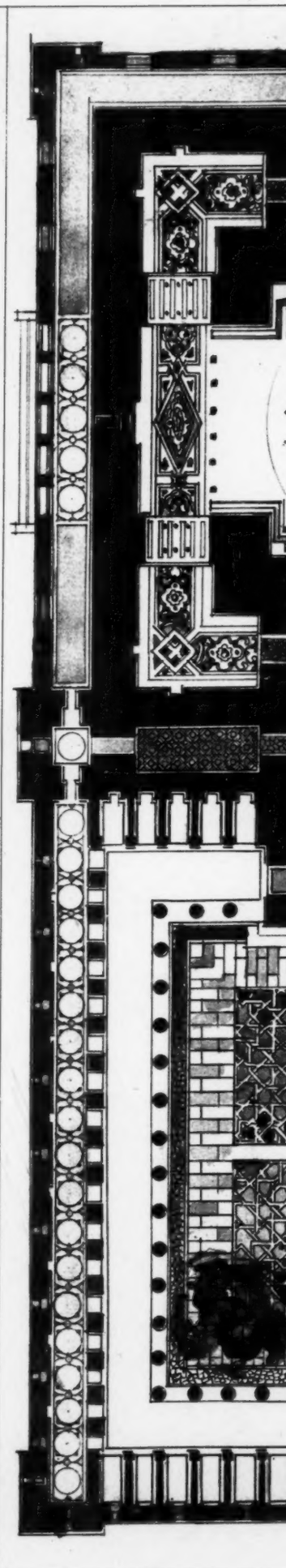


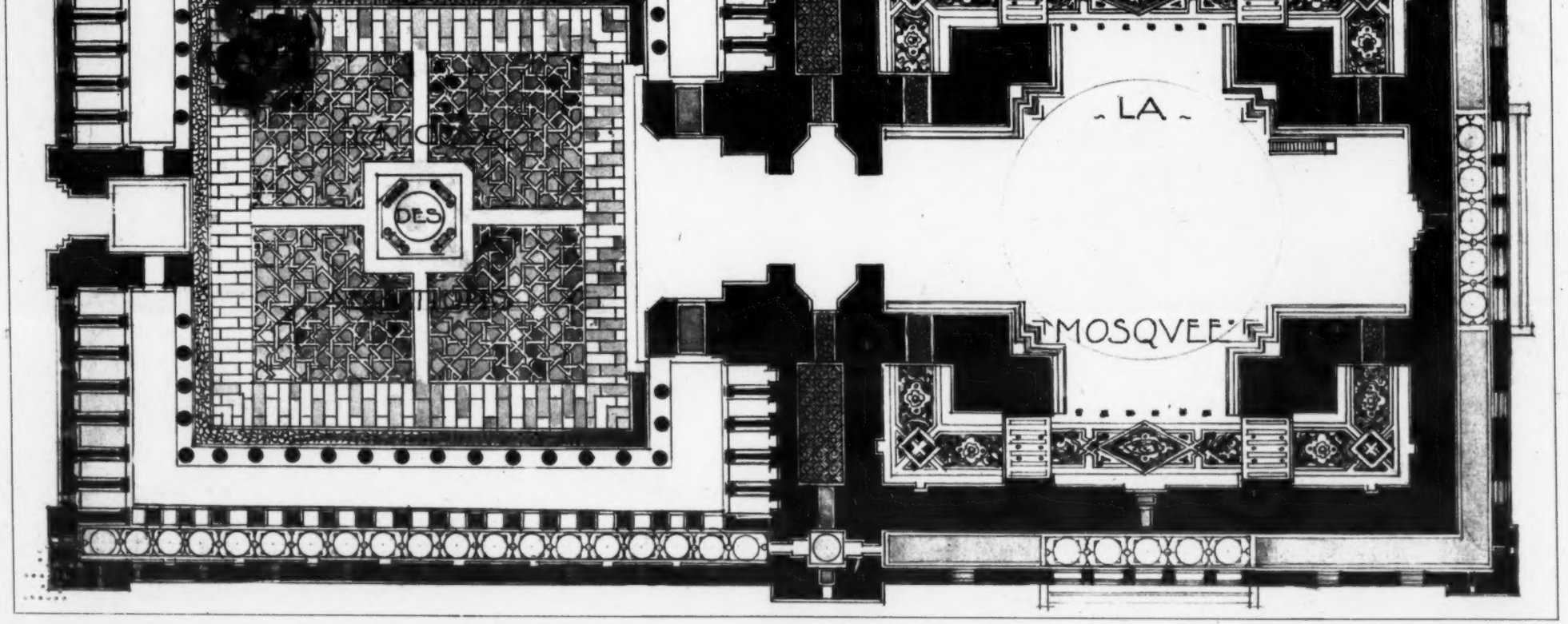
SECTION C-D.

By Mr. Gilbert C. Roberts.









WORK OF ECOLE DES BEAUX ARTS' STUDENTS, PARIS.—FROM THE SOCIETY OF ARCHITECTS' EXHIBITION.

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